

FDL-390CV

SERVICE MANUAL

AEP Model

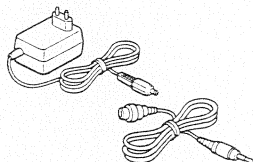


SPECIFICATIONS

| | |
|-------------------|--|
| TV standard | CCIR TV standard |
| Colour system | PAL |
| Channel coverage | VHF-L E2—E4, S01—S1 VHF-H S2—S10, E5—E12, S11—S20 UHF E21—E68 |
| Antenna | VHF/UHF telescopic antenna |
| Display | TN LCD/TFT active matrix method Total picture-element number: 89,505 Effective picture-element ratio: more than 99.99% |
| Picture size | 3-inch picture measured diagonally |
| Speaker | 77 mm (3 inches) dia. |
| Input | EXT ANT: minijack, impedance 75 ohms AUDIO/VIDEO IN: tripolar minijack, Impedance Audio 47 kilohms/Video 75 ohms |
| Output | EAR: minijack, impedance 8—300 ohms |
| Power requirement | 9 V DC, See page 3 "Power sources". |
| Battery life | See page 3 "Power sources". |
| Power consumption | 5.8 W (9 V DC) |
| Dimensions | Approx. 208 × 116.5 × 72.5 mm (w/h/d) (8 1/4 × 4 5/8 × 2 7/8 inches) incl. projecting parts |
| Weight | Approx. 1.1 kg (2 lb 7oz) incl. batteries. |

Supplied accessories

AC power adaptor (1)
Antenna cable (1)



FEATURES

- The LCD (Liquid Crystal Display) provides clear pictures and natural facial colour tones.
- This unit receives either CCIR (VHF/UHF) or cable TV system.
- This unit is used as an AV (audio/video) monitor.
- This unit has a powerful sound output of 500mW.
- The voltage synthesizer tuning system allows easy tuning.
- Provides 8 hours of continuous operation using the six LR14 (size C) alkaline batteries.
- An angle-adjustable stand is provided.

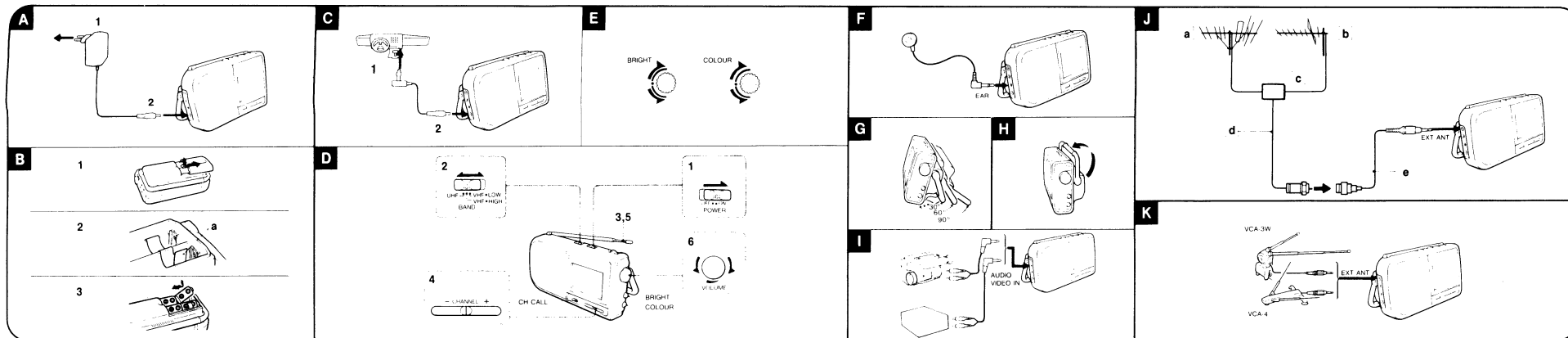
Design and specifications are subject to change without notice.



LCD COLOUR TV
SONY®

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When you read this operating instructions, refer to the illustrations indicated in ■.

Power Sources

Using on House Current **A**

Use the supplied AC power adaptor.

- 1 Connect the AC power adaptor to a wall outlet.
- 2 Connect the AC power adaptor to the DC IN 9V jack of this unit.

After operating this unit with an AC power adaptor, be sure to disconnect the adaptor from the mains.

The power switch on this unit does not turn off the AC power adaptor.

Using on the Alkaline Batteries **B**

Insert six LR14 (size C) batteries (not supplied).

- 1 Remove the battery compartment lid at the rear.
- 2 Lay the ribbon [a].
- 3 Insert the batteries with correct polarities.
- 4 Reinstall the lid.

To remove the batteries

Pull the ribbon. The batteries will come out of the compartment.

Battery replacement

When the batteries become weak, the unit's protective function will automatically cause the picture to disappear. In this case, replace all the batteries with new ones.

Battery life

You can continuously use for approximately 8 hours on the alkaline batteries, or approximately 2.5 hours on the manganese batteries. The battery life becomes short in a cold place.

Using on Car Battery **C**

You can use the unit only in a 12 V DC car.

You need the Sony DCC-E190L car battery cord (not supplied).

- 1 Connect the car battery cord to the cigarette lighter socket.
- 2 Connect the car battery cord to the DC IN 9V jack of this unit.

Notes

- Use only the supplied AC power adaptor or DCC-E190L car battery cord. Do not use any other AC power adaptor or car battery cord.
- When the unit is not to be used for a long period of time, remove the batteries to avoid unit damage caused by battery leakage and corrosion.



Polarity of the plug

Watching the TV **D**

For your safety, do not watch the TV nor operate the controls while driving.

To watch the cable TV, connect the cable to the EXT ANT jack.

1 Set the POWER switch to ON.

2 Select the band as follows:

To watch the UHF channels, set to UHF.

To watch the VHF channels, set to VHF•LOW (E2—E4) or VHF•HIGH (E5—E12).

To watch the cable TV, set to VHF•LOW (S01—S1) or VHF•HIGH (S2—S20).

The green line on the screen indicates the VHF low channels.

The blue line indicates the VHF high channels.

The red line indicates the UHF channels.

3 Pull out the antenna fully (not necessary for the cable TV).

4 Tune in the desired channel.

5 Adjust the length and direction of the antenna (not necessary for the cable TV).

For UHF, the receiving may be better with the short antenna.

6 Adjust the volume.

To turn off the TV

Set the POWER switch to OFF, and fold the antenna.

If the channel changes

If the power is momentarily lost because of a mechanical shock, or if the unit has passed through a tunnel, the channel may change. If this happens, tune in the desired channel again with CHANNEL +/-.

Adjusting the Picture **E**

For more brightness, turn the BRIGHT (brightness) control clockwise.

For less brightness, turn the BRIGHT control counterclockwise.

For more colour intensity, turn the COLOUR control clockwise.

For less colour intensity, turn the COLOUR control counterclockwise.

To indicate the current channel

Press the CH (channel) CALL button.

The line (green for VHF low, blue for VHF high, red for UHF) appears at the position of the current channel.

To listen with the earphone **F**

Connect the Sony ME-L91D earphone (not supplied) to the EAR jack.

How to Use the Stand

To watch the TV **G**

You can adjust the stand in three angles.

To carry the unit **H**

Using as a Monitor **I**

You can use the unit as a colour monitor for your VTR or video camera recorder. Connect your VTR to the AUDIO/VIDEO IN jack using the Sony AVK-715M AV cord (not supplied). Before connection, turn off the unit and the VTR.

Notes

- If the picture is distorted or noisy, move the unit away from the VTR.
- When watching TV, disconnect the plug from the AUDIO/VIDEO IN jack.

Connecting an External Antenna

Receiving will improve.

Connecting the Outdoor Antenna **J**

[a] to [e] indicate the letters in the illustration.

Connect the VHF antenna [a] and/or the UHF antenna [b] to the EXT ANT jack of this unit using the mixer [c], 75-ohm coaxial cable [d] (not supplied), and antenna cable [e] (supplied).

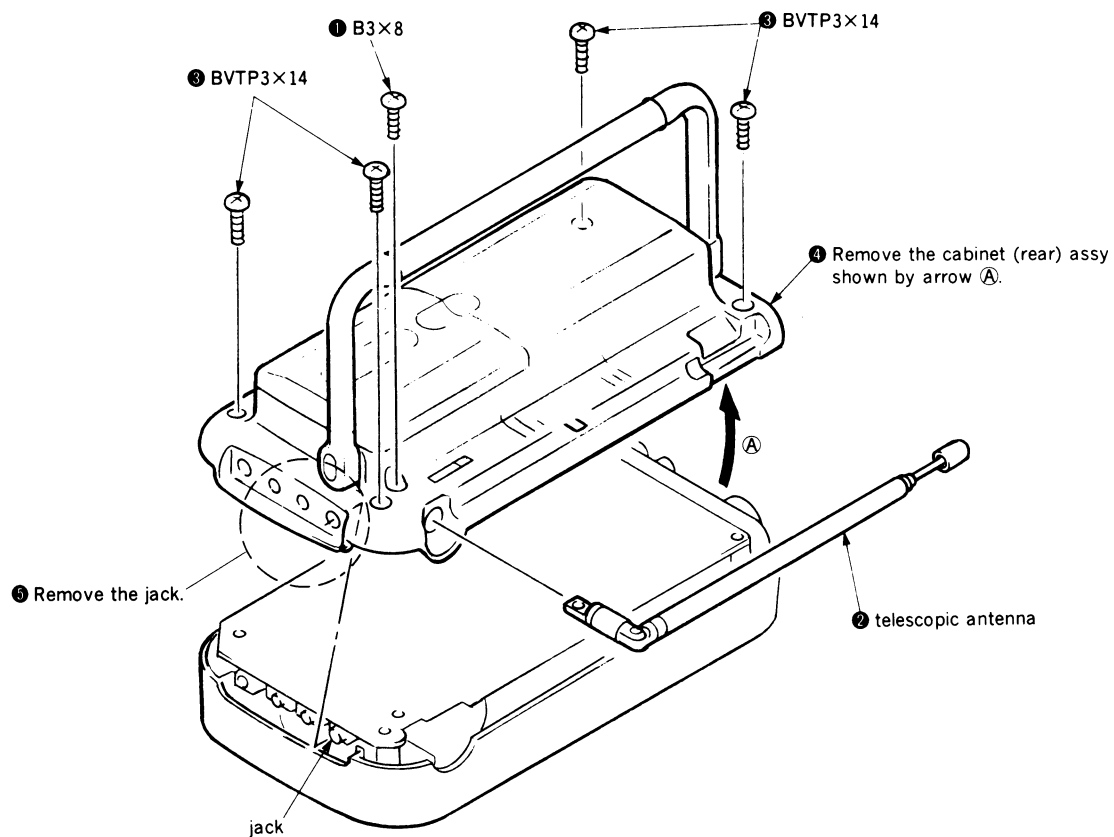
Connecting the Car Antenna **K**

Connect the car antenna (not supplied) to the EXT ANT jack of this unit.

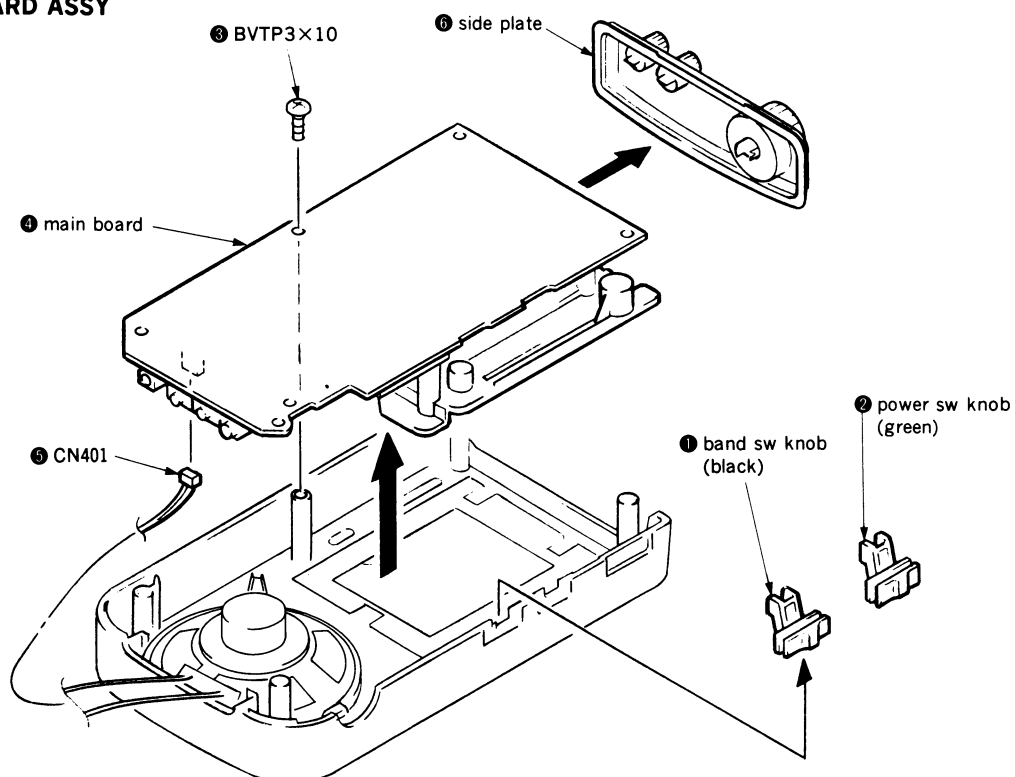
SECTION 2 DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

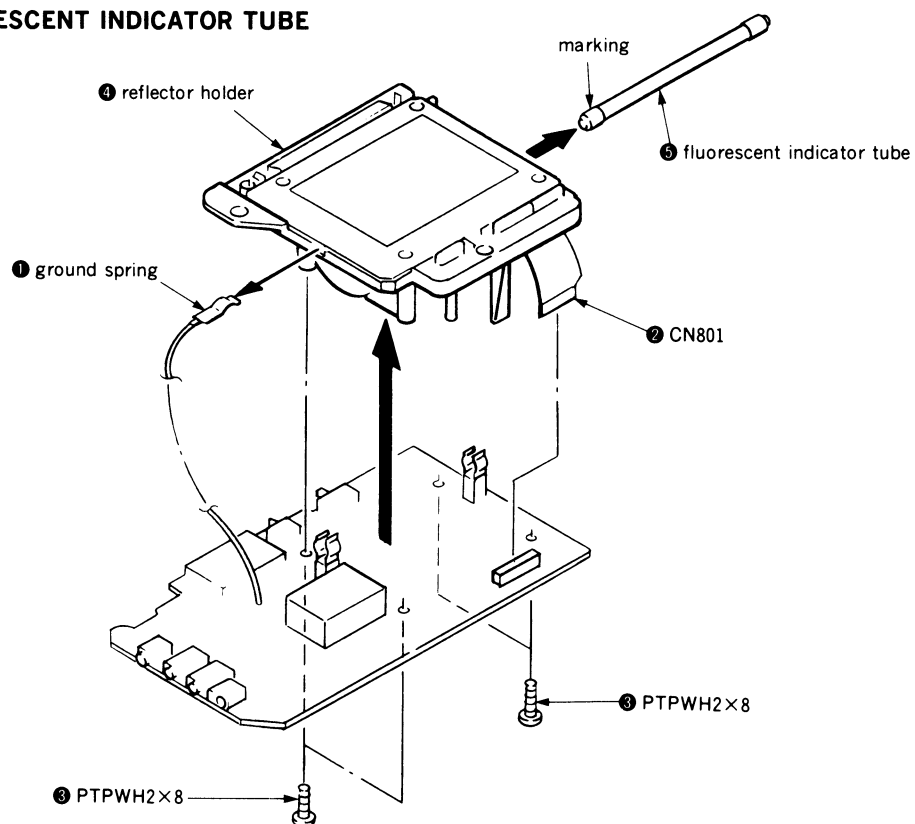
2-1. CABINET (REAR) SUB ASSY



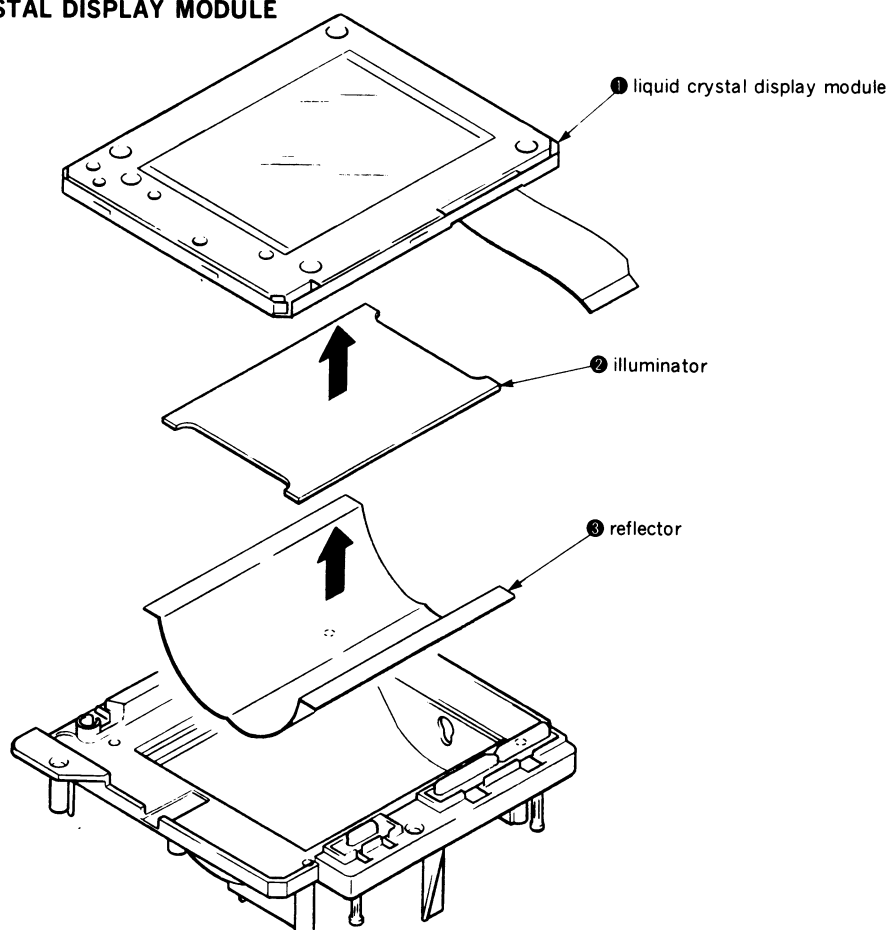
2-2. MAIN BOARD ASSY



2-3. FLUORESCENT INDICATOR TUBE



2-4. LIQUID CRYSTAL DISPLAY MODULE



SECTION 3 ELECTRICAL ADJUSTMENTS

CAUTIONS

1. Make adjustment in sequence as described.
2. Power supply voltage is $+9.0 \pm 0.1V$ (DC jack end) unless otherwise specified. Power supply shall not be input overlapped.
3. Check the error in waveform and screen for adjustment.
4. Measure a fluorescent tube and an Liquid Crystal Display module (LCD) device by connecting them with the main board.
5. Unless otherwise specified, input the color bar signal, etc. from AUDIO/VIDEO IN jack (J501) by using AV-cord (AVK-715M, etc.) to intercept the internal TV detection output.
Also, usually use monochromatic gradation wave monoscope with chroma signal and burst signal OFF.
6. Measuring instruments
 - PAL pattern generator
 - Digital multimeter
 - Oscilloscope
7. Modes of SW, VR

| | |
|----------------|-----------------|
| S601 (POWER) |ON |
| S101 (BAND) |VHF • HIGH |
| RV401 (VOLUME) |MIN. |

VOLTAGE ADJUSTMENT

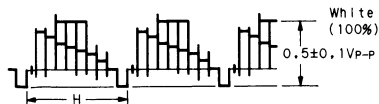
Procedures :

1. Connect a digital multimeter between TP605 (+4.8V) and TP602 (GND) on the main board, and then adjust RV601 so that the reading of the voltage is $+4.85 \pm 0.05V$.
2. Connect a digital multimeter between TP606 (-8V) and TP602 (GND), and then adjust RV602 so that the reading of the voltage is $-8.0 \pm 0.1V$.
3. Connect a digital multimeter between TP607 (+4.4V) and TP602 (GND), and then adjust RV603 so that the reading of voltage is $+4.4 \pm 0.05 V$.

WAVEFORM CHECK/COM ADJUSTMENT

Procedures :

1. Y signal check (H cycle)
Input the color bar signal from AUDIO/VIDEO IN jack (J501).
Connect an oscilloscope to TP303 (Y) to check if the waveform is as shown in the following figure.



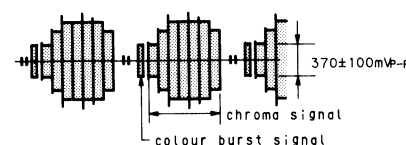
2. SYNC signal check (H cycle)

Connect an oscilloscope to TP304 (SYNC) to check if the waveform is as shown in the following figure.



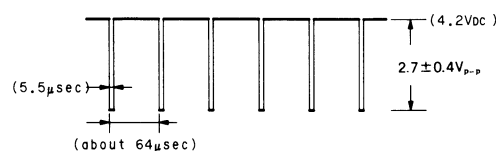
3. Color burst signal check (H cycle)

Connect an oscilloscope to TP305 (CHROMA) to check if the waveform is as shown in the following figure.



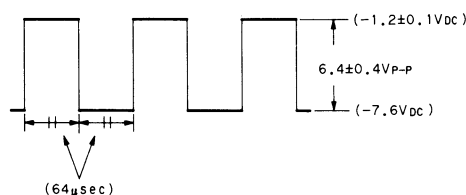
4. H pulse check (H cycle)

Connect an oscilloscope to TP301 (H PULSE) to check if the waveform is as shown in the following figure.



5. COM signal check/adjustment (2H cycle)

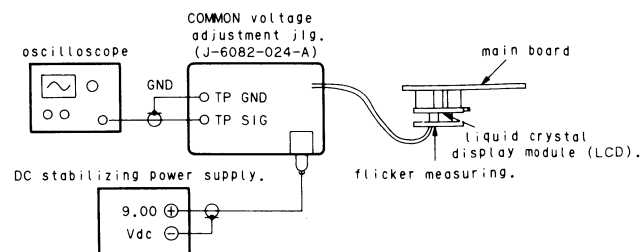
Connect an oscilloscope to TP302 (COM) to check if the waveform is as shown in the following figure.
Turn and set RV309 at the position where the contrast is the most distinction LCD. (DC level of figure are reference)



COMMON VOLTAGE ADJUSTMENT

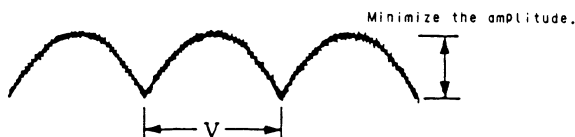
— Adjustment with a jig —

connection :



Procedures :

1. Apply the photo detector unit of COMMON voltage adjustment jig (J-6082-024-A) to the LCD. At this time, turn the LCD downward to avoid interference of external light.
2. Connect an oscilloscope to the common voltage adjustment jig.
3. Input the monochromatic gradation wave from AUDIO/VIDEO IN jack (J501).
4. Turn RV301 to check if the waveform is as shown in the figure below. When flicker waveform is not output, check the applying state of the photo detector unit and the state of external light and then turn the BRIGHT VR (RV305).
5. Minimize the amplitude of flicker waveform with RV301.



* When there is no COMMON voltage adjustment jig, make the following simple adjustment.

— Simple adjustment —**Procedure :**

1. Input the monochromatic gradation wave from AUDIO/VIDEO IN jack (J501).
2. Turn and set RV301 at the position where the contrast is the most distinction LCD. Magnify LCD with a magnifier, etc., up to the level where the pixels of LCD can be obtained, and adjust RV301 so that the flickers are minimum while watching the flickers.

BRIGHT VOLTAGE PREADJUSTMENT**Procedures :**

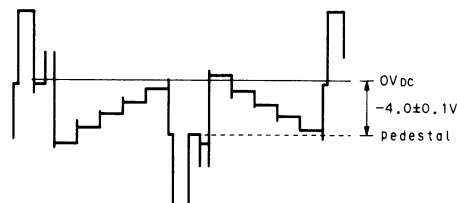
1. Input the color bar from AUDIO/VIDEO IN jack (J501).
2. Connect a digital multimeter between TP307 (BRT) and TP311 (GND) and adjust BRIGHT VR (RV305) so that the reading of the voltage is $+1.85 \pm 0.02$ V.

G BIAS/B BIAS/R BIAS ADJUSTMENTS**Procedures :**

1. Turn COLOUR VR (RV307) to minimum (monochrome).
2. Connect a ceramic capacitor (10000pF) between TP305 (CHROMA) and TP311 (GND).
3. Input the monochromatic gradation wave from AUDIO/VIDEO IN jack (J501).
4. Connect an oscilloscope to TP308 (G), and adjust RV306 so that DC level for the pedestal unit of positive polarity G signal is -4.0 ± 0.1 V as shown in the following figure. (G bias adjustment)
5. Connect an oscilloscope to TP310 (B), and adjust RV310

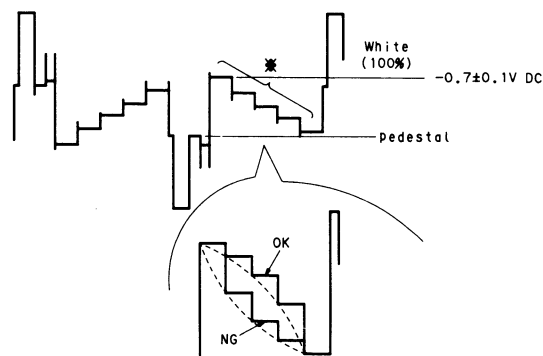
so that DC level for the pedestal unit of positive polarity B signal is -4.0 ± 0.1 V as shown in the following figure. (B bias adjustment)

6. Connect an oscilloscope to TP309 (R), and adjust RV311 so that DC level for the pedestal unit of positive polarity R signal is -4.0 ± 0.1 V as shown in the following figure. (R bias adjustment)

**CONTRAST/B GAIN/R GAIN ADJUSTMENTS****Procedures :**

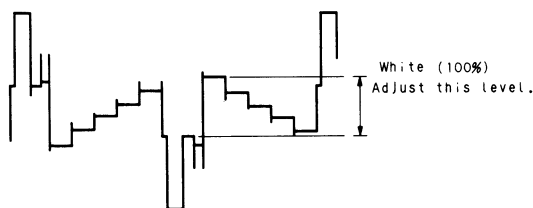
1. Input the monochromatic gradation wave from AUDIO/VIDEO IN jack (J501).
2. Connect an oscilloscope to TP308 (G), and adjust RV302 so that the DC voltage the positive polarity G signal of white (100%) is -0.7 ± 0.1 V as shown in the following figure. (Contrast adjustment)
3. Connect an oscilloscope to TP310 (B), and adjust RV301 so that the DC voltage the positive polarity B signal of white (100%) is -0.7 ± 0.1 V as shown in the following figure. (B gain adjustment)
4. Connect an oscilloscope to TP309 (R), and adjust RV303 so that the DC voltage the positive polarity R signal of white (100%) is -0.7 ± 0.1 V as shown in the following figure. (R gain adjustment)

Note : Adjustment the each RV so that the waveform of * part is convex to upper side as shown in the following figure.

**WHITE BALANCE ADJUSTMENT****Procedures :**

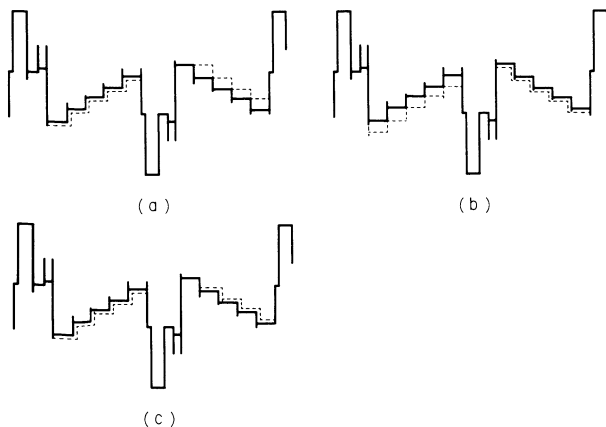
1. Connect the channel 1 of an oscilloscope to TP308 (G). Turn the BRIGHT VR (RV305) counterclockwise to darken the screen. (until the minimum value which can be observed by the oscilloscope is reached.)
2. With the oscilloscope connected to TP308 (G), connect

- TP309 (R) to the channel 2.
3. Turn RV303 and adjust the DC voltage of the positive polarity R signal in the white direction (100%) to the DC voltage of the positive polarity G signal in the white direction (100%).
4. With the oscilloscope connected to TP308 (G), connect TP310 (B) to the channel 2.
5. Turn RV301 and adjust the DC voltage of the positive polarity B signal in the white direction (100%) to the DC voltage of the positive polarity G signal in the white direction (100%).



6. Connect a digital multimeter to TP307 (BRT). Turn RV305 clockwise and brighten the screen so that the reading of the voltage value is $+1.85 \pm 0.1$ V.
7. Connect TP308 (G) to the channel 1 and TP309 (R) to the channel 2 of the oscilloscope.
8. Turn RV311 and adjust so that the positive and negative polarity R signal overlaps the positive and negative polarity G signal * (the DC level of each tone is matched between these signals).
9. With the oscilloscope connected to TP308 (G), connect TP310 (B) to the channel 2.
10. Turn RV310 and adjust so that the positive and negative polarity B signal overlaps the positive and negative polarity G signal ** (the DC level of each tone is matched between these signals).

*, **: The positive and negative polarity signal may not be matched with the corresponding signal simultaneously due to variations. (See figures (a) and (b).) In this case, adjust to the average positions of the positive and negative positions. (See figure (c).)

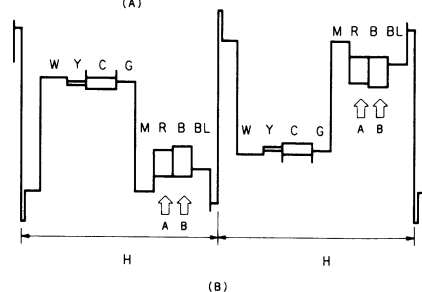
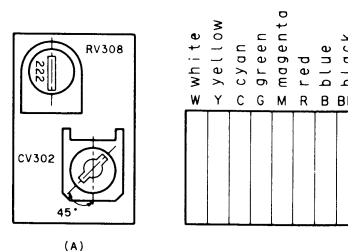


11. Input the monochromatic gradation wave or monoscope signal from AUDIO/VIDEO IN jack (J501).
 12. Turn the BRIGHT VR (RV305) and verify that there is only monochrome display with no colors in all of the maximum and minimum positions. If any color is present, readjust RV303 (R GAIN) and RV301 (B GAIN).
- Note :** It should be noted that when BRIGHT is darkened, color tends to appear.
13. Remove a ceramic capacitor to connected by G bias adjustment.
 14. Input the color bar signal from AUDIO/VIDEO IN jack (J501).
 15. Turn the BRIGHT VR (RV305) to maximum and turn the COLOUR VR (RV307) to minimum and verify that the screen changes normally. Lastly, place the respective controls in their center positions.

ANTI PAL ADJUSTMENT-1

Procedures :

1. Input the color bar signal from AUDIO/VIDEO IN jack (J501).
2. Connect a oscilloscope to TP308 (G).
3. Preadjust RV308 and CV302 as shown in the following figure (A).
4. Turn the COLOUR VR (RV307) and BRIGHT VR (RV305) to maximum.
5. Turn the T301 and RV308 and adjust so as completely overlaps on color bar signal (red (⇧ A) and blue (⇧ B) portions) by 2V/div. range of oscilloscope as shown in the following figure (B).

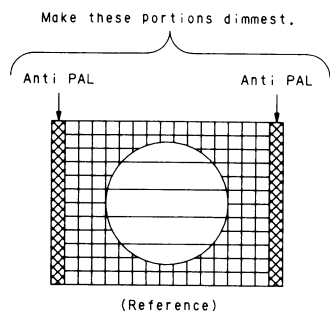


Note : Adjust so as completely overlaps on red and blue portions of color bar signal by 2V/div. range of oscilloscope.

ANTI PAL ADJUSTMENT-2

Procedures :

1. Input the philips pattern signal from the AUDIO/VIDEO IN jack (J501).
2. Turn CV302 and adjust so that the color of the anti PAL signal portions is dimmest on the screen.



Note : Anti PAL adjustment-1 and -2 is as each effect, repeat adjust few times.

VIF ADJUSTMENT/AFT ADJUSTMENT

Note : These adjustments are not performed usually.

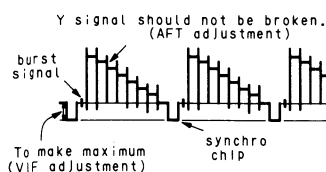
Never touch L204 and L205 of adjustment devices.

While, only when L204, L205 or capacitors around L204, L205 have been replaced, make the following simple adjustment.

— Simple adjustment —

Procedures :

1. Connect a ceramic capacitor (10000pF) between TP207 (SAW IN) and TP209 (GND).
2. Connect a jumper wire between TP210 (MUTE) and TP209 (GND).
3. Input the monochromatic gradation wave from TP101 (ANT IN).
4. Connect an oscilloscope to Q301 emitter.
5. Adjust L204 so that the SYNC signal is maximum (VIF adjustment).
6. Turn and L205 to adjust the level so that the screen is colored from monochrome without breaking of Y signal. (AFT adjustment) (Reference value : Vp-p of burst signal is about 60mV.)
7. Receive the broad casts of each channel, and check if the screen is colored after the synchronism is stopped with each channel.
8. Remove a ceramic capacitor and jumper wire to connect- ed by items 1 and 2.



AGC ADJUSTMENT

Procedures :

1. Receive the TV broadcast.
2. Turn and adjust RV201 so that the snow noise is shown.
3. Reversely turn and set RV201 to the point where the snow noise disappears.
4. Receive the broadcast for each channel, and check if there is beat, image distortion of snow noise caused by mixed demodulation.
5. If any beat, image distortion of snow noise are observed, adjust RV201 again.

TUNING ADJUSTMENT

Procedures :

1. Short S104 (CH CALL).
2. Set S101 (BAND) to the VHF • LOW side to check with the screen if the display bar was turned green.
3. Receive the broadcast of 2CH by pushing S102 (CHANNEL -) or S103 (CHANNEL +).
4. Adjust RV104 so that the display bar is corresponded to the position of 2CH.
5. Receive the broadcast of S1CH, and adjust RV101 so that the display bar is corresponded to the S1CH.

Note : Since the items 4 and 5 will interfere each other, the adjustment is necessary for 2 to 3 times.

6. Receive the broadcasts of 2 to S1CH, and check if the display bar is corresponded to each channel.
7. Set S101 (BAND) to the VHF • HIGH side to check with the screen if the display bar was turned blue.
8. Receive the broadcast of S2CH by pushing S102 (CHANNEL -) or S103 (CHANNEL +).
9. Adjust RV105 so that the display bar is corresponded to the position of S2CH.
10. Receive the broadcast of S20CH, and adjust RV102 so that the display bar is corresponded to each channel.

Note : Since the items 9 and 10 will interfere each other, the adjustment is necessary for 2 to 3 times.

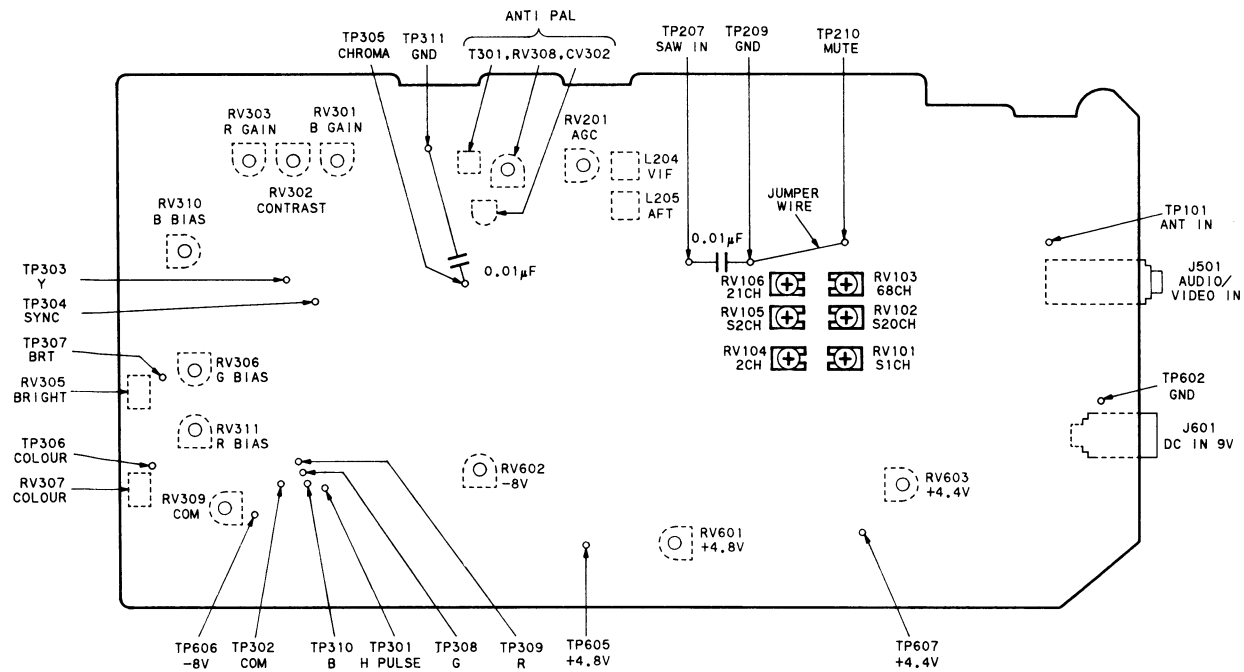
11. Receive the broadcasts of S2 to S20CH, and check if the display bar is corresponded to each channel.
12. Set S101 (BAND) to the UHF side to check with the screen if the display bar was turned red.
13. Receive the broadcast of 21CH, and adjust RV106 so that the display bar is corresponded to the position of 21CH.
14. Receive the broadcast of 68CH, and adjust RV103 so that the display bar is corresponded to the position of 68CH.

Note : Since the items of 13 and 14 will interfere each other, the adjustment is necessary for 2 to 3 times.

15. Receive the broadcasts of 21CH to 68CH, and check if the display bar is corresponded to the position of each channel.

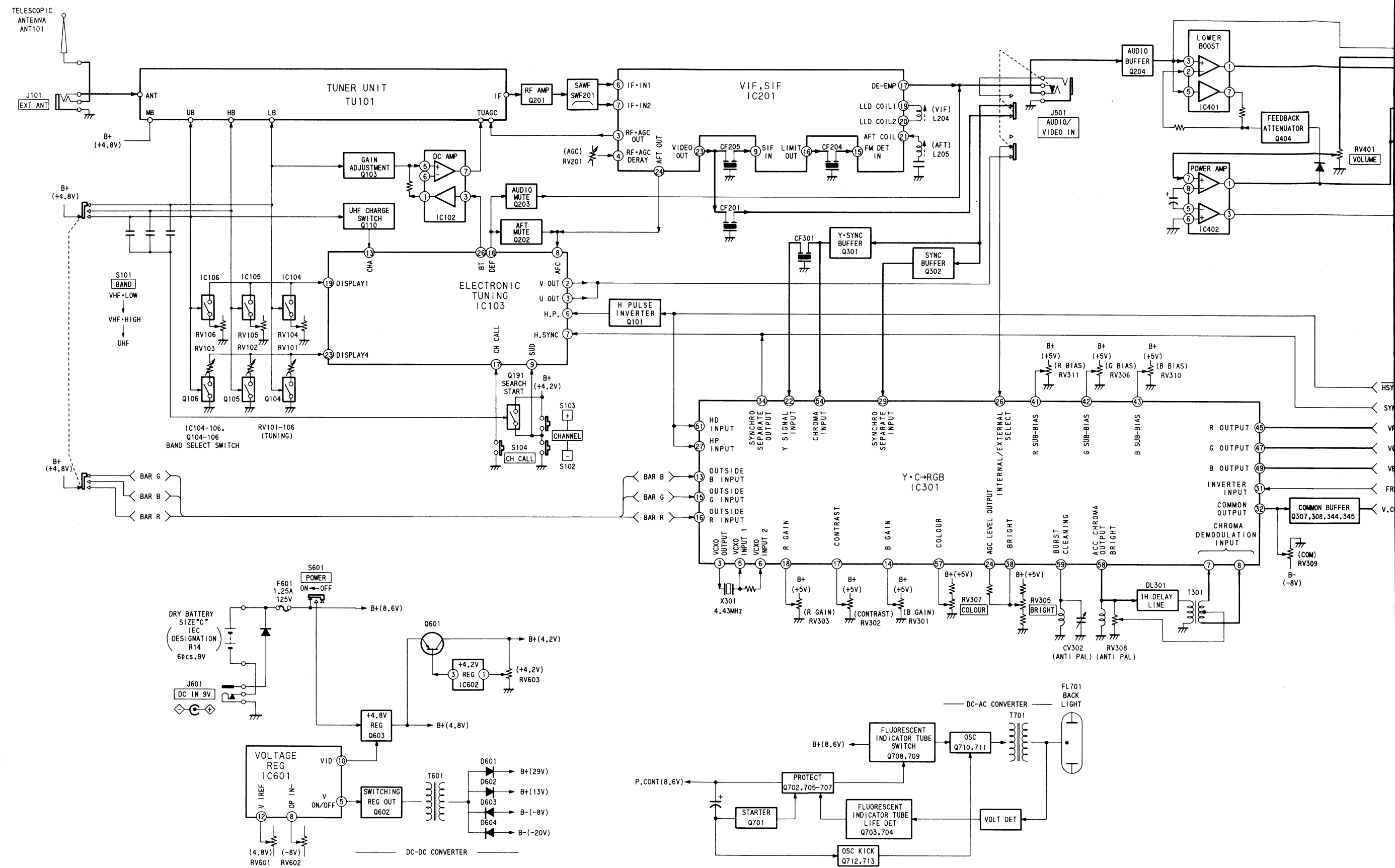
16. Disconnect the S104 shorted in the above item 1.

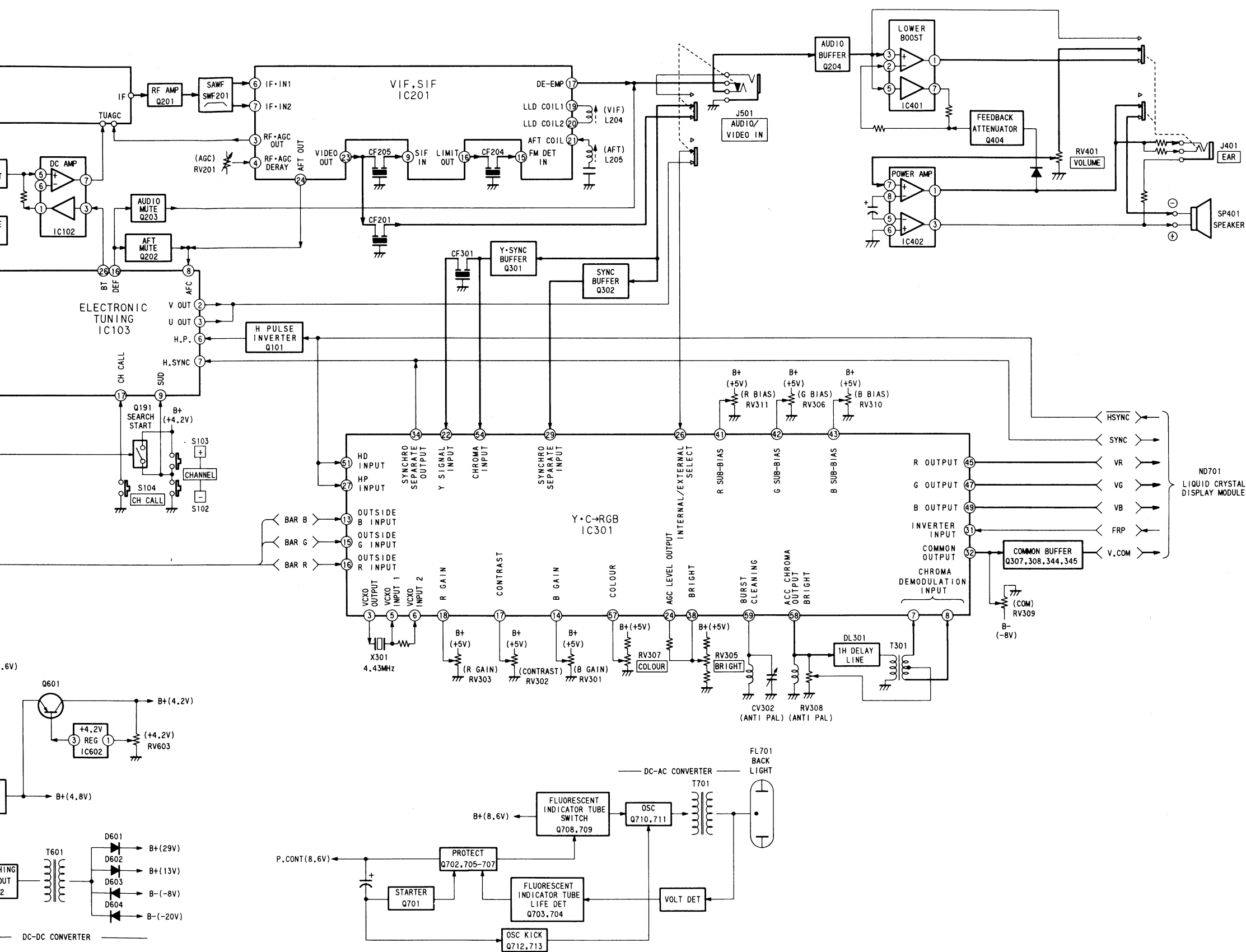
Adjustment Location : main board

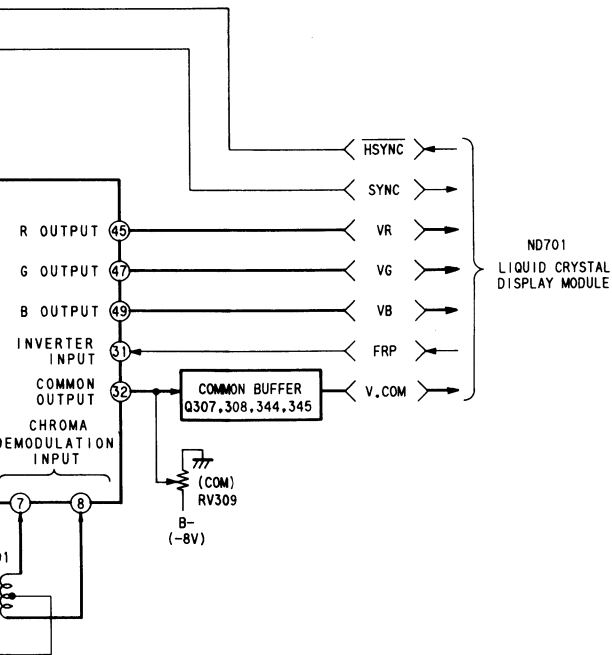
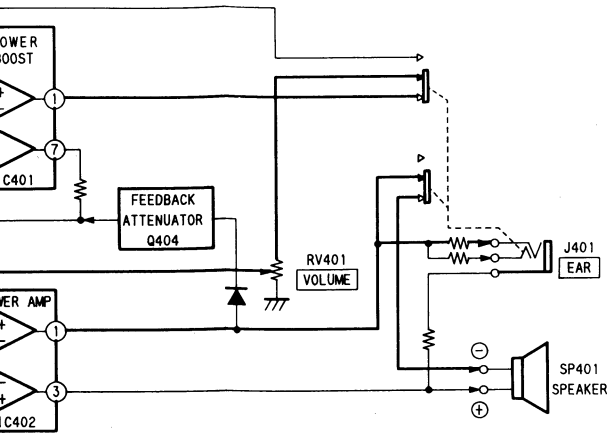


SECTION 4
DIAGRAMS

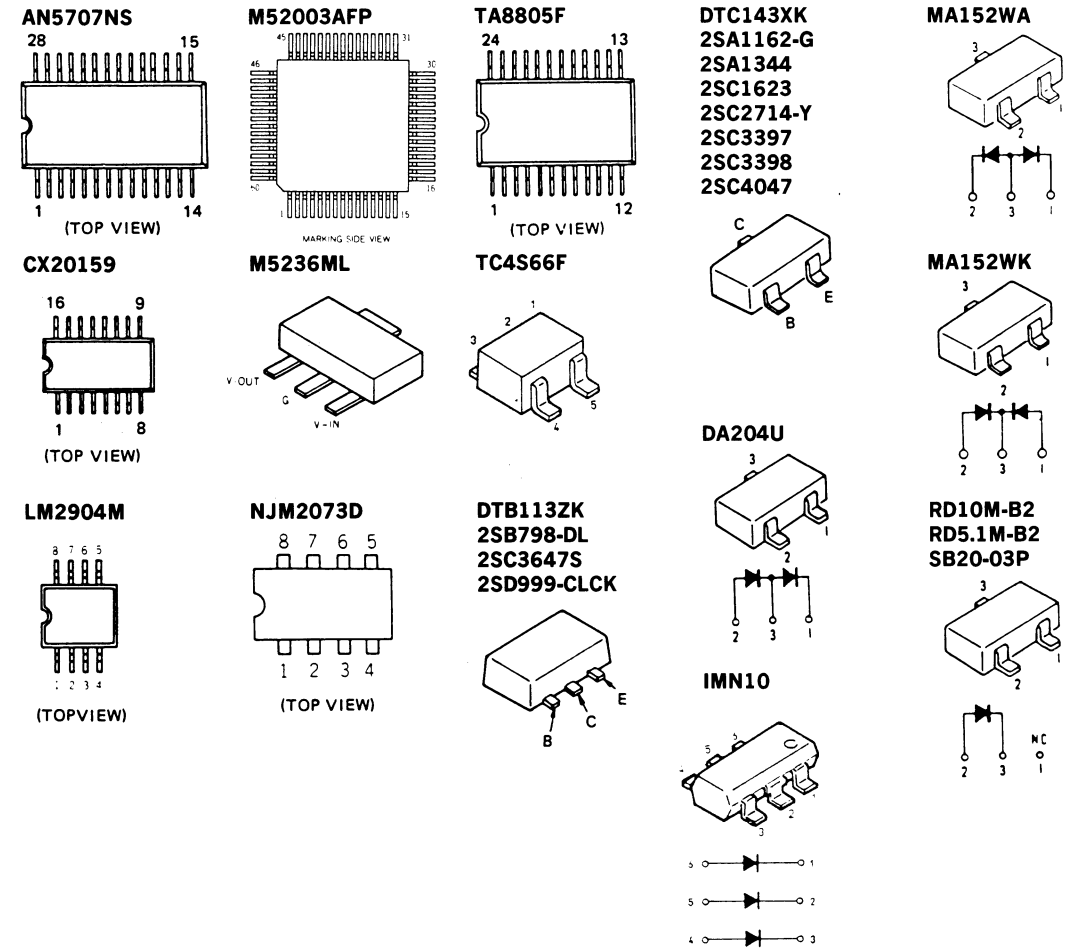
4-1. BLOCK DIAGRAM







4-2. SEMICONDUCTOR LEAD LAYOUTS

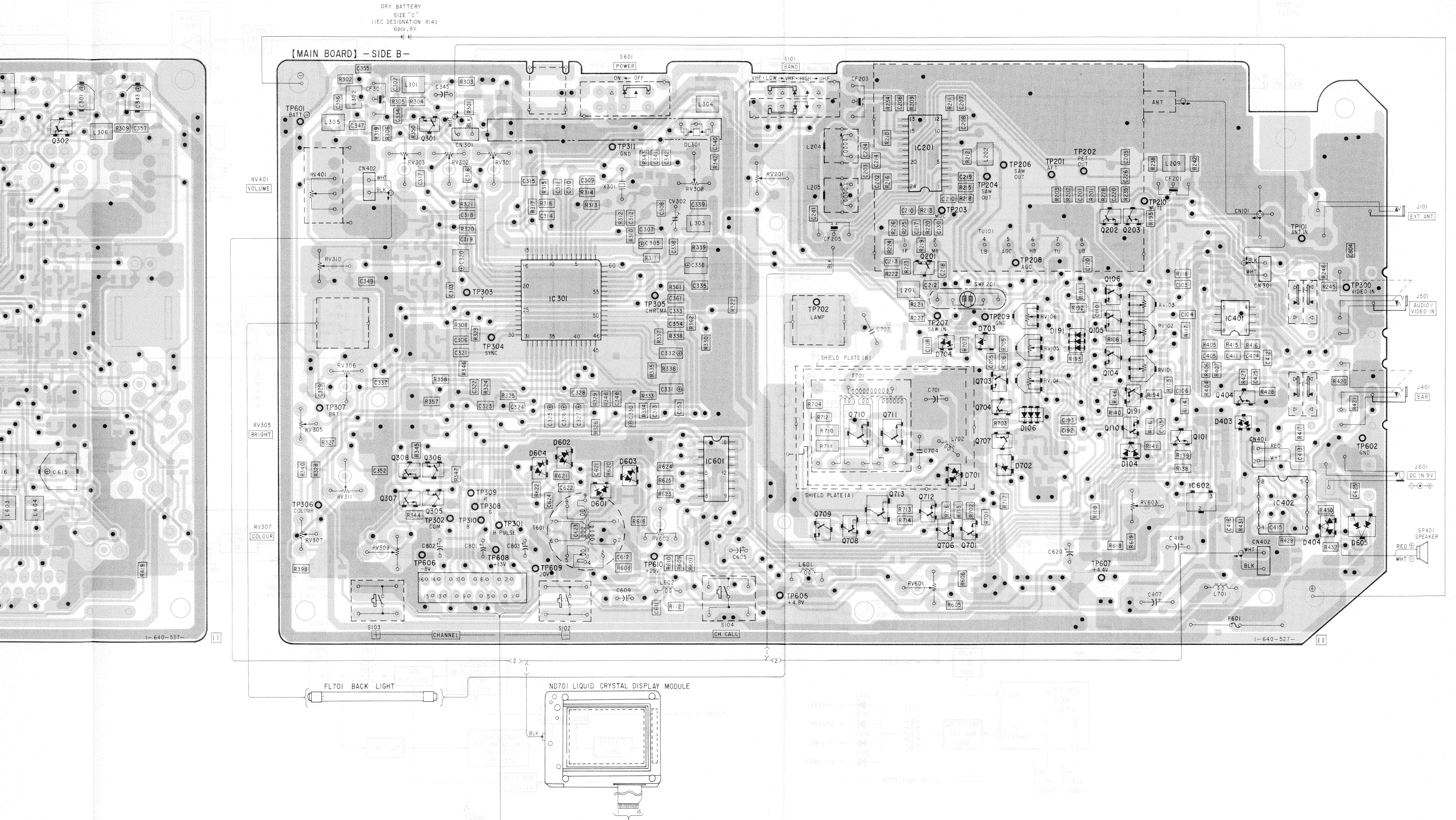


● Semiconductor Location

| Ref. No. | Location |
|----------|----------|
| D102 | E-6 |
| D104 | F-27 |
| D106 | F-26 |
| D108 | F-4 |
| D191 | E-26 |
| D403 | F-28 |
| D404 | G-29 |
| D601 | G-20 |
| D602 | F-20 |
| D603 | G-20 |
| D604 | G-19 |
| D605 | G-30 |
| D606 | G-9 |
| D701 | G-25 |
| D702 | G-25 |
| D703 | E-25 |
| D704 | E-25 |
| IC102 | F-5 |
| IC103 | E-4 |
| IC104 | E-5 |
| IC105 | E-5 |
| IC106 | E-5 |
| IC201 | B-24 |
| IC301 | D-20 |
| IC401 | E-28 |
| IC402 | G-29 |
| IC601 | G-22 |
| IC602 | G-28 |
| Q101 | F-28 |
| Q103 | G-5 |
| Q104 | E-27 |
| Q105 | E-27 |
| Q106 | D-27 |
| Q110 | F-27 |
| Q191 | F-27 |
| Q201 | D-24 |
| Q202 | C-27 |
| Q203 | C-27 |
| Q204 | E-3 |
| Q301 | B-18 |
| Q302 | B-13 |
| Q305 | G-18 |
| Q306 | G-18 |
| Q307 | G-18 |
| Q308 | G-18 |
| Q401 | F-3 |
| Q404 | F-28 |
| Q601 | F-3 |
| Q602 | H-10 |
| Q603 | H-6 |
| Q701 | G-25 |
| Q702 | G-8 |
| Q703 | E-25 |
| Q704 | F-25 |
| Q705 | G-8 |
| Q706 | G-25 |
| Q707 | F-25 |
| Q708 | G-23 |
| Q709 | G-23 |
| Q710 | F-23 |
| Q711 | F-24 |
| Q712 | G-24 |
| Q713 | G-24 |

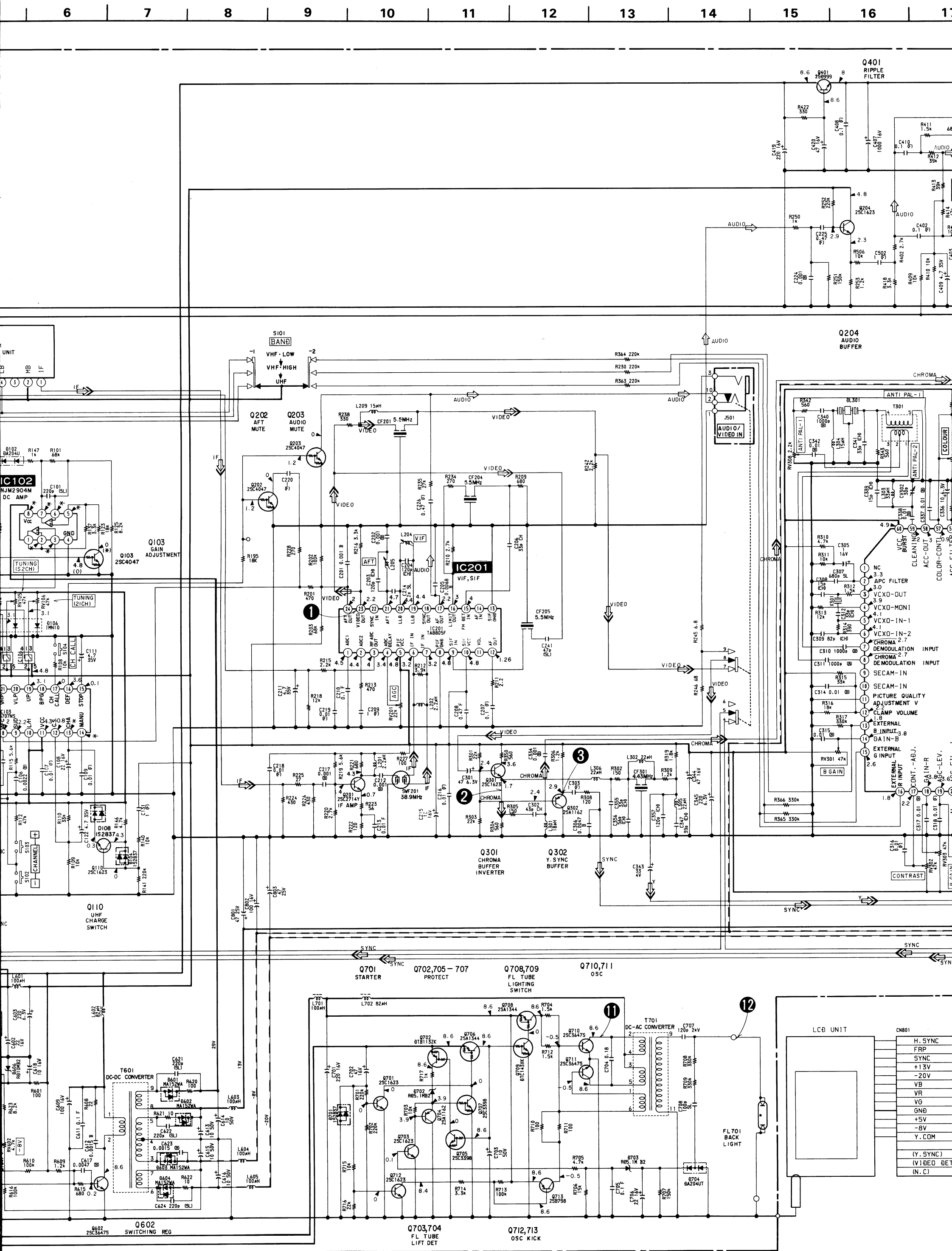
4-3. PRINTED WIRING BOARD ● Refer to page 14 for Semiconductor Lead Layouts.

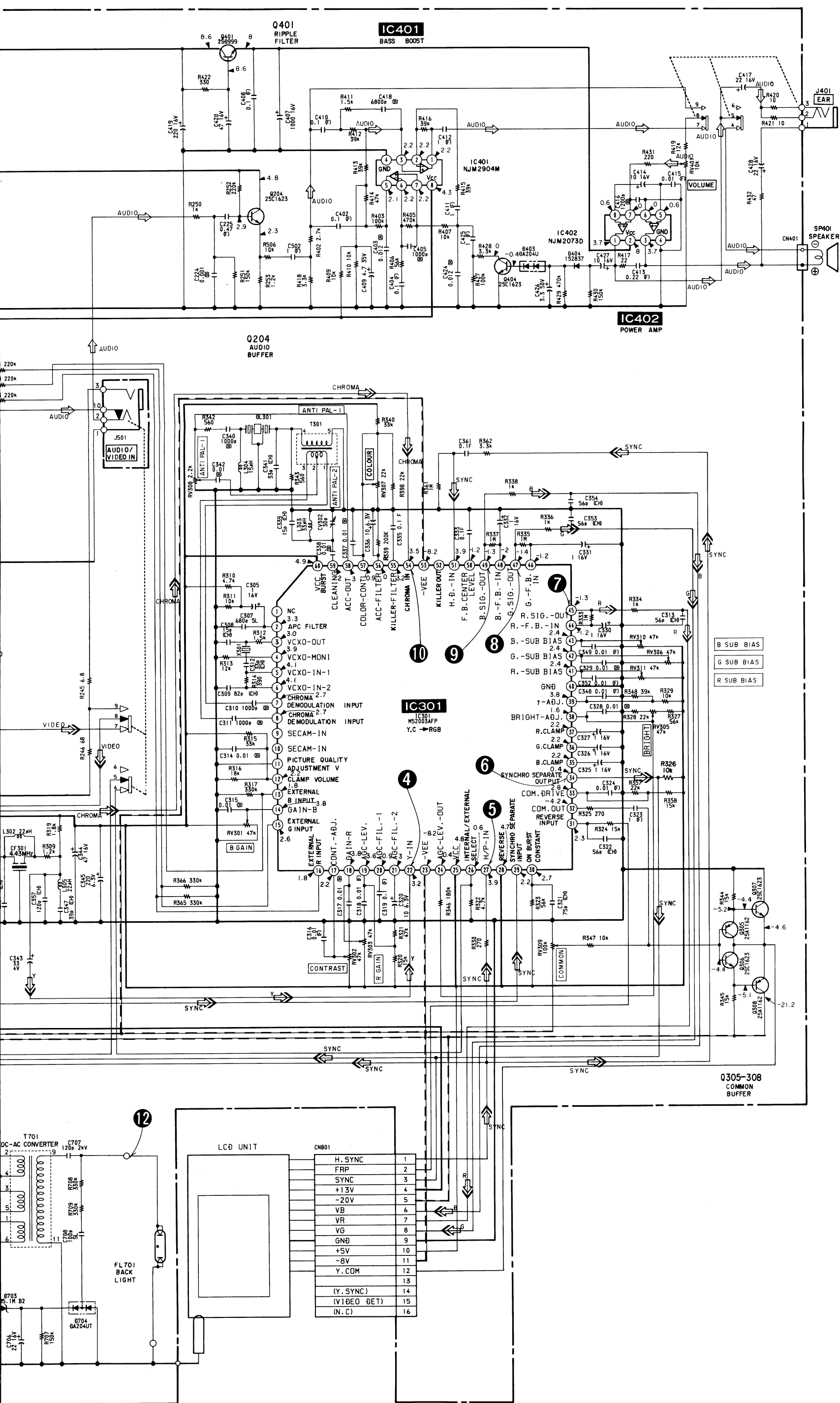




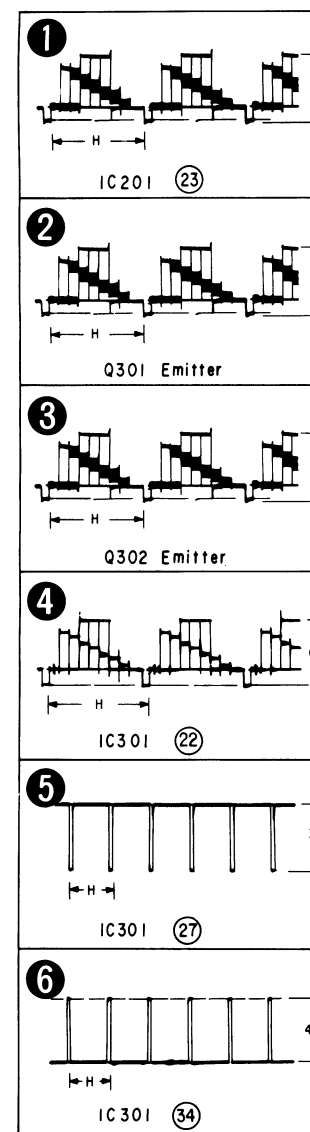
4-4. SCHEMATIC DIAGRAM • Refer to page 23 for IC Block Diagrams.







Waveforms

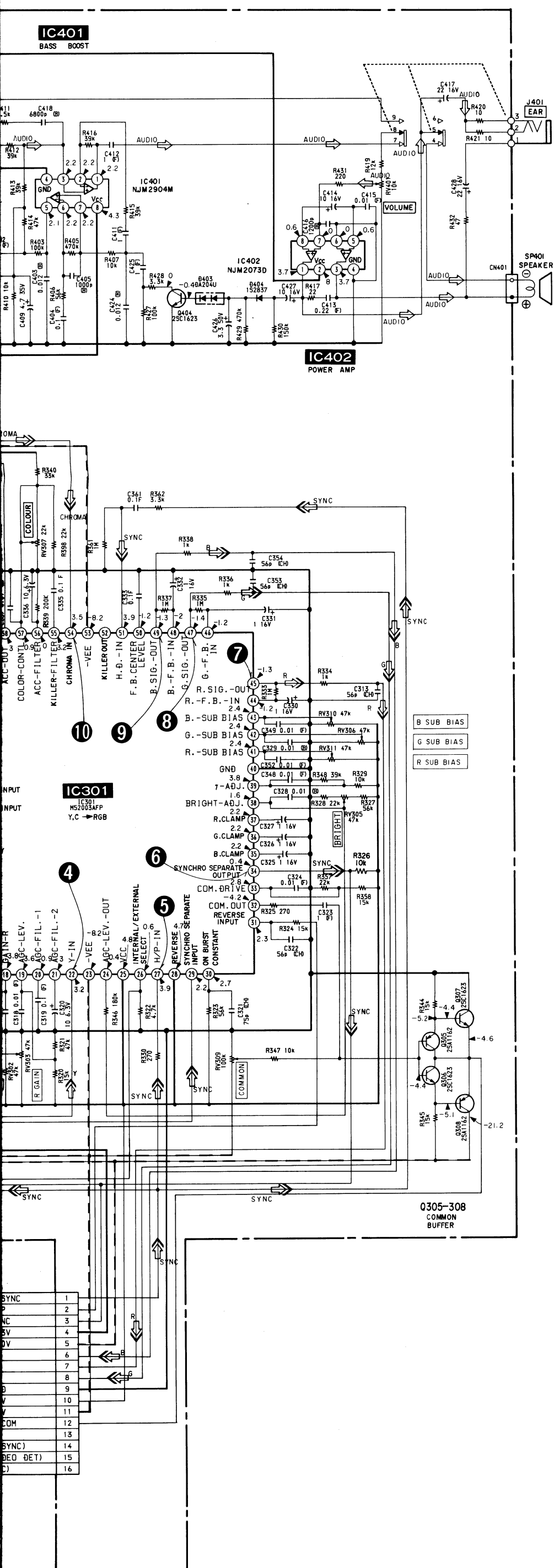


Note:

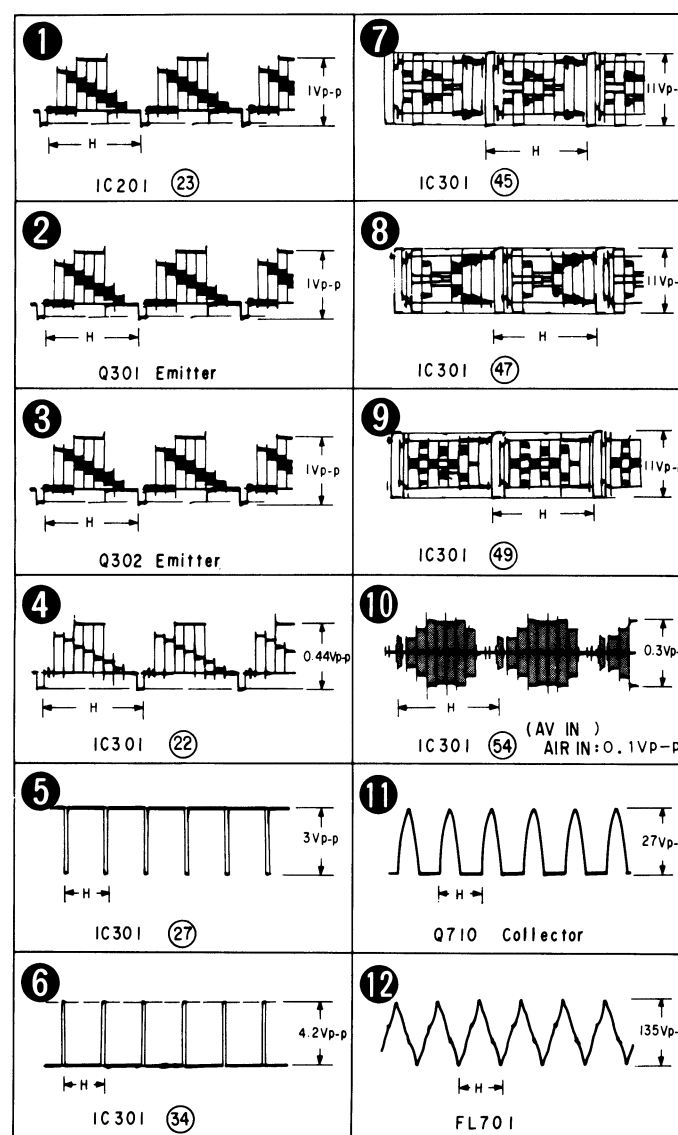
- All capacitors are in μF unless otherwise specified.
- All resistors are in Ω unless otherwise specified.
- % : indicates tolerance.

Note: The components identified by a line with mark Δ are to be replaced only with parts of the same type.

- — : B+ Line
- - - - : B- Line
- Δ : adjustment for repair
- Power voltage is dc 9V and frequency is 50Hz or 60Hz from external power voltage jack.
- Voltage and waveforms are shown under no-signal (detuned) conditions.
- () : VHF • LOW
- () : UHF
- Voltages are taken with a VOM. Voltage variations may be within the tolerance.
- Waveforms are taken with a scope. Voltage variations may be within the tolerance.
- Circled numbers refer to waveforms.







- **Waveforms**



Note:

- All capacitors are in μF unless otherwise noted. pF : μF 50VV or less are not indicated except for electrolytics and tantalums.
- All resistors are in Ω and $\frac{1}{4}\text{W}$ or less unless otherwise specified.
- % : indicates tolerance.

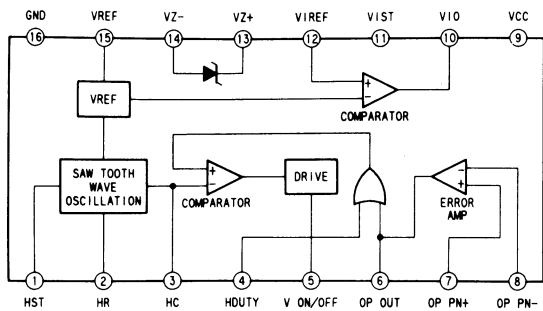
Note: The components identified by mark  or dotted line with mark are critical for safety. Replace only with part number specified.

-  : B+ Line
-  : B- Line
-  : adjustment for repair.
- Power voltage is dc 9V and fed with regulated dc power supply from external power voltage jack.
- Voltage and waveforms are dc with respect to ground under no-signal (detuned) conditions.
no mark : VHF • LOW
(): UHF
- Voltages are taken with a VOM (Input Impedance 10M Ω).
Voltage variations may be noted due to normal production tolerances.
- Waveforms are taken with a oscilloscope.
Voltage variations may be noted due to normal production tolerances.
- Circled numbers refer to waveforms.

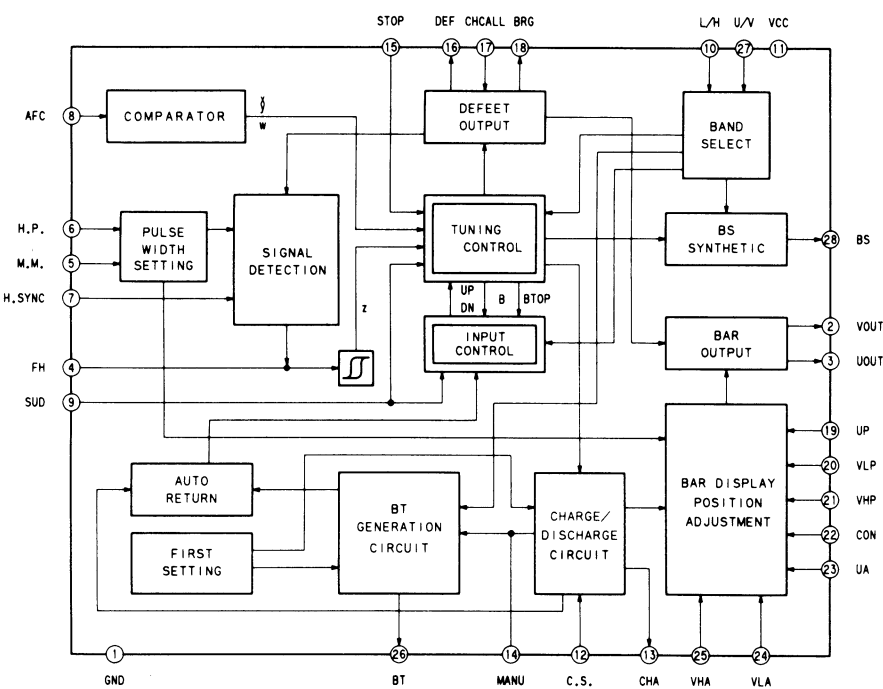
SECTION 5
PIN DESCRIPTION

• IC Block Diagrams

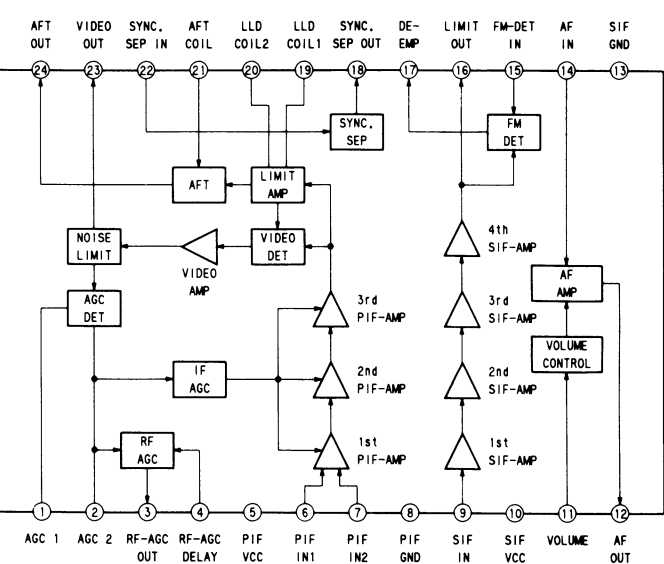
IC601 CX20159



IC103 AN5707NS



IC201 TA8805F



5-1. PIN DESCRIPTION

• IC301 M52003AFP

| Pin No. | Pin Name | Pin Description |
|---------|------------------------------|--|
| 1 | NC | |
| 2 | APC FILTER | This pin determines the APC time constant of VCXO. |
| 3 | VCXO-OUT | Output of VCXO oscillator. |
| 4 | VCXO-MONI | This pin provides monitor output of VCXO oscillator. This is open emitter output. |
| 5 | VCXO-IN-1 | Feedback input to VCXO generator. |
| 6 | VCXO-IN-2 | Phase Delayed input of the signal from Pin ⑤. |
| 7 | CHROMA DEMODULATION INPUT | Input pin for the color difference demodulator for B-Y signal. |
| 8 | CHROMA DEMODULATION INPUT | Input pin for the color difference demodulator for R-Y signal. |
| 9 | SECAM-IN | This pin receives output of the color difference decoder for SECAM B-Y. When the color killer is activated, the internal switch will select the SECAM signal side. |
| 10 | SECAM-IN | This pin receives output of the color difference decoder for SECAM R-Y. |
| 11 | PICTURE QUALITY ADJUSTMENT V | Picture Quality Adjustment pin. Increase the voltage to have sharper picture. Decrease it to have more soft picture. |
| 12 | CLAMP VOLUME | Used to adjust so that the internal signal is matched with the external RGB signal in the clamp level. |
| 13 | EXTERNAL B INPUT | External B Signal input. This input is 0.8V _{P-P} standard. |
| 14 | GAIN-B | Used to adjust the gain of B signal to ensure white balance. This input is 3.5V standard. Increase the voltage to reduce the gain. |
| 15 | EXTERNAL G INPUT | External G Signal input. |
| 16 | EXTERNAL R INPUT | External R Signal input. |
| 17 | CONT. -ADJ. | Used to adjust the contrast of the internal signal. Increase the voltage to have higher contrast. Decrease it to have lower contrast. |
| 18 | GAIN-R | Used to adjust the gain of R signal to ensure white balance. |
| 19 | AGC-LEV. | Used to set the point at which AGC operates. |
| 20 | AGC-FIL. -1 | AGC Filter pin. |
| 21 | AGC-FIL. -2 | AGC Filter pin. |
| 22 | Y-IN | Luminance Signal Input pin. Pedestal clamp is applied. This input is 0.5V _{P-P} standard and comes in as synchronized negatively. |
| 23 | -V _{EE} | Connection pin for -7.5V power. |
| 24 | AGC-LEV. -OUT | This pin outputs the point at which AGC operates. When AGC operates, the voltage will be reduced. |
| 25 | V _{CC} | Connection pin for +4.5V power for the interface unit. |
| 26 | INTERNAL/EXTERNAL SELECT | Used to switch between the internal and external signals. Set this pin "High" to select external signal. Set it to "Low" to select internal signal. |
| 27 | H/P-IN | Input pin for Synchronizing signal from an external source. When used simultaneously with synchronous separation output, this signal must rise earlier than the output. |
| 28 | REVERSE | Used to control the reverse polarity of output. Set this pin "High" to have normal white. Set it "Low" to have normal black. |
| 29 | SYNCHRO SEPARATE INPUT | Synchronous Separation input. This input is 1V _{P-P} video signal as synchronized negatively. |
| 30 | ON BURST CONSTANT | Time Constant which determines the width of the burst gate. The burst gate pulse having the time determined by this constant is generated at the trailing edge of synchronous separation output. |

| Pin No. | |
|---------|------------------|
| 31 | REVER |
| 32 | COM. C |
| 33 | COM. I |
| 34 | SYNCH |
| 35 | B. CLA |
| 36 | G. CLA |
| 37 | R. CLA |
| 38 | BRIGH |
| 39 | γ-ADJ. |
| 40 | GND |
| 41 | R. -SU |
| 42 | G. -SU |
| 43 | B. -SU |
| 44 | R. -F. E |
| 45 | R. SIG. |
| 46 | G. -F. E |
| 47 | G. SIG. |
| 48 | B. -F. E |
| 49 | B. SIG. |
| 50 | F. B. C |
| 51 | H. D. -I |
| 52 | KILLE |
| 53 | -V _{EE} |
| 54 | CHROM |
| 55 | KILLE |
| 56 | ACC FI |
| 57 | COLOR |
| 58 | ACC-OU |
| 59 | BURST |
| 60 | V _{CC} |

emitter output.

CAM B-Y. When CAM signal side.

CAM R-Y.

sharper picture.

ternal RGB signal

his input is 3.5V

voltage to have

input is 0.5V_{P-P}

GC operates, the

his pin "High" to

n used simultane-
earlier than the

" to have normal

as synchronized

e burst gate pulse
trailing edge of

| Pin No. | Pin Name | Pin Description |
|---------|-------------------------|---|
| 31 | REVERSE INPUT | Output Reversing Pulse input. This reverses common and RGB outputs at the same time. The polarity of RGB output depends on reverse polarity control. |
| 32 | COM. OUT | Common Electrode Drive Output pin. |
| 33 | COM. DRIVE | Used to set the amplitude of common electrode drive output. |
| 34 | SYNCHRO SEPARATE OUTPUT | Synchronous Separation Output pin. This is open collector output and is synchronized positively. A load resistor should be connected to use this output. |
| 35 | B. CLAMP | Connection pin for B signal clamp capacitance. |
| 36 | G. CLAMP | Connection pin for G signal clamp capacitance. |
| 37 | R. CLAMP | Connection pin for R signal clamp capacitance. |
| 38 | BRIGHT-ADJ. | Brightness Adjustment pin. Increase the voltage to have whiter picture. |
| 39 | γ-ADJ. | Used to set the gamma amount of the gamma amplifier. Connect this pin to the power when gamma amplifier is not required. |
| 40 | GND | Grounding pin. This pin should be connected to GND. |
| 41 | R. -SUB BIAS | Used to set the bias amount of R signal. |
| 42 | G. -SUB BIAS | Used to set the bias amount of G signal. |
| 43 | B. -SUB BIAS | Used to set the bias amount of B signal. |
| 44 | R. -F. B. -IN | Pin for DC Feedback of R output. R output is integrated and then input to this pin. This pin should be connected to -V _{EE} when not used. |
| 45 | R. SIG. -OUT | R Signal Output pin. The inverted signal is output. |
| 46 | G. -F. B. -IN | Pin for DC Feedback of G output. |
| 47 | G. SIG. -OUT | G Signal Output pin. |
| 48 | B. -F. B. -IN | Pin for DC Feedback of B output. |
| 49 | B. SIG. -OUT | B Signal Output pin. |
| 50 | F. B. CENTER LEVEL | Output Feedback Reference Voltage pin. When this voltage is varied, the center voltage of output is varied. This pin should be grounded with the capacitance for stabilization. |
| 51 | H. D. -IN | This pin inputs the HD signal which drives the flip flop for line pulse generation. The F/F changes at the rising edge of HD. |
| 52 | KILLER OUT | Killer Signal output. When the killer is activated, this output will be High. |
| 53 | -V _{EE} | Connect this pin to -7.5V power. It has the same potential with Pin 23. |
| 54 | CHROMA IN | Chroma Signal Input pin. This input is burst 100mV _{P-P} standard. |
| 55 | KILLER FILTER | Killer Filter Connecting pin. |
| 56 | ACC FILTER | Used to set the ACC time constant. |
| 57 | COLOR-CONTROL | Used to control the color level. Increase the voltage to increase the color saturation. |
| 58 | ACC-OUT | This pin outputs chroma signal under ACC. This output is sent through 1H delay line and then input into the demodulator. Burst removed signal is output. |
| 59 | BURST CLEANING | Connecting pin for the burst cleaning coil. The demodulation angle is adjusted by adjusting this coil. |
| 60 | V _{CC} | This pin is connected to +4.5V power. Video Chroma System Power pin. |

SECTION 6 EXPLODED VIEW

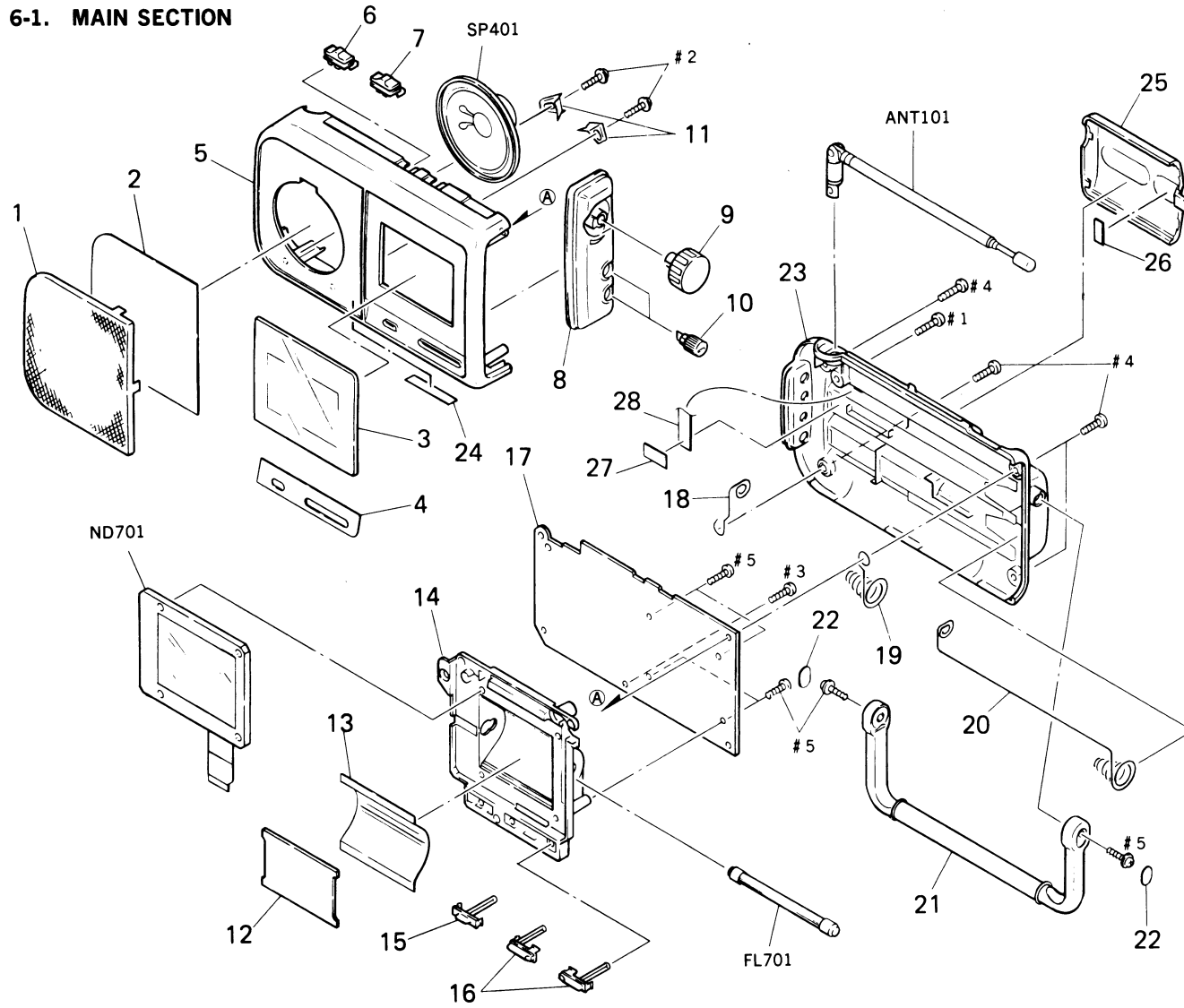
NOTE:

- The mechanical parts with no reference number in the exploded views are not supplied.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Color Indication of Appearance Parts
Example:
KNOB, BALANCE (WHITE)...(RED)
Parts Color Cabinet's Color

- Hardware(# mark) list is given in the last of this parts list.

6-1. MAIN SECTION



| Ref. No. | Part No. | Description | Remark |
|----------|----------------|---------------------|--------|
| 1 | 4-032-250-01 | GRILLE, SPEAKER | |
| 2 | 4-030-634-01 | NET, SPEAKER | |
| 3 | 4-032-595-01 | FILTER | |
| 4 | 4-030-630-01 | PLATE, CONTROL | |
| 5 | 4-032-588-01 | CABINET (FRONT) | |
| 6 | 4-030-831-01 | KNOB, BAND SW | |
| 7 | 4-030-831-11 | KNOB, POWER SW | |
| 8 | 4-031-773-01 | PLATE, SIDE | |
| 9 | 4-030-640-01 | KNOB, VOLUME | |
| 10 | 4-030-641-01 | KNOB, BRIGHT/COLOUR | |
| 11 | 3-840-975-00 | CLAW, SPEAKER | |
| 12 | * 4-030-646-01 | ILLUMINATOR | |
| 13 | * 4-030-644-01 | REFLECTOR | |
| 14 | * 4-030-651-01 | HOLDER, REFLECTOR | |
| 15 | 4-030-638-01 | BUTTON, CH CALL | |
| 16 | 4-030-639-01 | BUTTON, TUNING +/- | |

| Ref. No. | Part No. | Description | Remark |
|----------|----------------|--------------------------------|--------|
| 17 | * A-3016-111-A | MAIN BOARD, COMPLETE | |
| 18 | 4-030-636-01 | TERMINAL, BATTERY PLUS | |
| 19 | 4-030-635-01 | SPRING, BATTERY COIL | |
| 20 | 4-030-642-01 | TERMINAL, BATTERY | |
| 21 | X-4029-349-1 | HANDLE ASSY | |
| 22 | 4-030-632-01 | LABEL, HANDLE | |
| 23 | X-4029-788-1 | CABINET (REAR) SUB ASSY | |
| 24 | * 4-032-586-01 | LABEL, MODEL NUMBER (CV) | |
| 25 | 4-030-647-01 | LID, BATTERY CASE | |
| 26 | 9-911-837-XX | CUSHION, BATTERY | |
| 27 | 3-831-441-XX | CUSHION (A) | |
| 28 | 4-031-060-01 | RIBBON, BATTERY | |
| ANT101 | 1-501-494-11 | ANTENNA, TELESCOPIC | |
| FL701 | 1-519-563-11 | INDICATOR TUBE, FLUORESCENT | |
| ND701 | 1-808-658-11 | DISPLAY MODULE, LIQUID CRYSTAL | |
| SP401 | 1-544-548-11 | SPEAKER (8CM) | |

SECTION 7 ELECTRICAL PARTS LIST

MAIN

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- CAPACITORS
uF: μ F

- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal Oxide-film resistor
F: nonflammable
- COILS
uH: μ H
- SEMICONDUCTORS
In each case, u: μ , for example:
uA...: μ A..., uPA...: μ PA...,
uPB...: μ PB..., uPC...: μ PC...,
uPD...: μ PD...

The components identified by mark Δ or dotted line with mark Δ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|----------|----------------|-------------------------------|---------|----------|--------------|-----------------------|----------|
| | * A-3016-111-A | MAIN BOARD, COMPLETE ***** | | C208 | 1-164-005-11 | CERAMIC CHIP 0.47uF | 25V |
| | * 1-573-957-11 | PIN, CONNECTOR | | C209 | 1-164-346-11 | CERAMIC CHIP 1uF | 16V |
| | * 1-690-313-11 | CABLE (WITH CONNECTOR) | | C210 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V |
| | 4-030-645-01 | SPRING, HOLDER | | C211 | 1-126-603-11 | ELECT CHIP 4.7uF | 20% 35V |
| | < CAPACITOR > | | | C212 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C101 | 1-163-125-00 | CERAMIC CHIP 220PF | 5% 50V | C213 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V |
| C102 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | C214 | 1-163-085-00 | CERAMIC CHIP 2PF | 50V |
| C103 | 1-164-346-11 | CERAMIC CHIP 1uF | 16V | C215 | 1-124-779-00 | ELECT CHIP 10uF | 20% 16V |
| C104 | 1-163-117-00 | CERAMIC CHIP 100PF | 5% 50V | C216 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V |
| C105 | 1-163-113-00 | CERAMIC CHIP 68PF | 5% 50V | C217 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C106 | 1-163-013-91 | CERAMIC CHIP 0.0022uF | 10% 50V | C218 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V |
| C107 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V | C219 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V |
| C108 | 1-126-395-11 | ELECT 22uF | 20% 16V | C220 | 1-164-346-11 | CERAMIC CHIP 1uF | 16V |
| C109 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V | C224 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C110 | 1-163-135-00 | CERAMIC CHIP 560PF | 5% 50V | C225 | 1-164-005-11 | CERAMIC CHIP 0.47uF | 25V |
| C111 | 1-126-603-11 | ELECT CHIP 4.7uF | 20% 35V | C226 | 1-164-005-11 | CERAMIC CHIP 0.47uF | 25V |
| C121 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V | C241 | 1-163-109-00 | CERAMIC CHIP 47PF | 5% 50V |
| C122 | 1-126-603-11 | ELECT CHIP 4.7uF | 20% 35V | C301 | 1-126-205-11 | ELECT CHIP 47uF | 20% 6.3V |
| C130 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V | C302 | 1-163-108-00 | CERAMIC CHIP 43PF | 5% 50V |
| C131 | 1-164-346-11 | CERAMIC CHIP 1uF | 16V | C303 | 1-164-346-11 | CERAMIC CHIP 1uF | 16V |
| C191 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | C305 | 1-135-091-00 | TANTALUM CHIP 1uF | 20% 16V |
| C192 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | C306 | 1-163-017-00 | CERAMIC CHIP 0.0047uF | 5% 50V |
| C193 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | C307 | 1-163-137-00 | CERAMIC CHIP 680PF | 5% 50V |
| C201 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V | C308 | 1-163-097-00 | CERAMIC CHIP 15PF | 5% 50V |
| C202 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V | C309 | 1-163-115-00 | CERAMIC CHIP 82PF | 5% 50V |
| C203 | 1-163-253-91 | CERAMIC CHIP 120PF | 5% 50V | C310 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C204 | 1-163-253-91 | CERAMIC CHIP 120PF | 5% 50V | C311 | 1-163-009-11 | CERAMIC CHIP 0.001uF | 10% 50V |
| C205 | 1-163-019-00 | CERAMIC CHIP 0.0068uF | 10% 50V | C312 | 1-163-239-91 | CERAMIC CHIP 33PF | 5% 50V |
| C206 | 1-163-239-91 | CERAMIC CHIP 33PF | 5% 50V | C313 | 1-163-245-11 | CERAMIC CHIP 56PF | 5% 50V |
| C207 | 1-163-038-00 | CERAMIC CHIP 0.1uF | 25V | C314 | 1-163-021-91 | CERAMIC CHIP 0.01uF | 10% 50V |
| | | | | C315 | 1-163-021-91 | CERAMIC CHIP 0.01uF | 10% 50V |
| | | | | C316 | 1-163-031-91 | CERAMIC CHIP 0.01uF | 50V |
| | | | | C317 | 1-163-021-91 | CERAMIC CHIP 0.01uF | 10% 50V |

MAIN

| Ref. No. | Part No. | Description | Remark | | | Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|---------------|---------|-----|------|----------|--------------|--------------|----------|-----|------|
| C318 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C414 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C319 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C415 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V |
| C320 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V | C416 | 1-163-010-11 | CERAMIC CHIP | 0.0012uF | 10% | 50V |
| C321 | 1-163-114-00 | CERAMIC CHIP | 75PF | 5% | 50V | C417 | 1-126-395-11 | ELECT | 22uF | 20% | 16V |
| C322 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V | C418 | 1-163-019-00 | CERAMIC CHIP | 0.0068uF | 10% | 50V |
| C323 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V | C419 | 1-124-120-11 | ELECT | 220uF | 20% | 25V |
| C324 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C420 | 1-126-204-11 | ELECT CHIP | 47uF | 20% | 16V |
| C325 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C424 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% | 50V |
| C326 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C425 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C327 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C426 | 1-126-602-11 | ELECT CHIP | 3.3uF | 20% | 50V |
| C328 | 1-163-021-91 | CERAMIC CHIP | 0.01uF | 10% | 50V | C427 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C329 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C428 | 1-126-395-11 | ELECT | 22uF | 20% | 16V |
| C330 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C502 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C331 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C601 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V |
| C332 | 1-135-091-00 | TANTALUM CHIP | 1uF | 20% | 16V | C602 | 1-126-395-11 | ELECT | 22uF | 20% | 16V |
| C333 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C603 | 1-126-176-11 | ELECT | 220uF | 20% | 10V |
| C334 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V | C604 | 1-164-182-11 | CERAMIC CHIP | 0.0033uF | 10% | 50V |
| C335 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C605 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C336 | 1-135-157-21 | TANTALUM CHIP | 10uF | 20% | 6.3V | C607 | 1-163-035-00 | CERAMIC CHIP | 0.047uF | | 50V |
| C337 | 1-163-021-91 | CERAMIC CHIP | 0.01uF | 10% | 50V | C609 | 1-124-455-00 | ELECT | 100uF | 20% | 16V |
| C338 | 1-163-021-91 | CERAMIC CHIP | 0.01uF | 10% | 50V | C611 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C339 | 1-163-097-00 | CERAMIC CHIP | 15PF | 5% | 50V | C612 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C340 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V | C613 | 1-126-405-11 | ELECT CHIP | 10uF | 20% | 50V |
| C341 | 1-163-239-91 | CERAMIC CHIP | 33PF | 5% | 50V | C614 | 1-126-405-11 | ELECT CHIP | 10uF | 20% | 50V |
| C342 | 1-163-021-91 | CERAMIC CHIP | 0.01uF | 10% | 50V | C615 | 1-126-405-11 | ELECT CHIP | 10uF | 20% | 50V |
| C343 | 1-126-207-11 | ELECT CHIP | 33uF | 20% | 4V | C616 | 1-126-405-11 | ELECT CHIP | 10uF | 20% | 50V |
| C344 | 1-126-204-11 | ELECT CHIP | 47uF | 20% | 16V | C617 | 1-163-017-00 | CERAMIC CHIP | 0.0047uF | 5% | 50V |
| C345 | 1-126-176-11 | ELECT | 220uF | 20% | 10V | C618 | 1-124-779-00 | ELECT CHIP | 10uF | 20% | 16V |
| C347 | 1-163-241-11 | CERAMIC CHIP | 39PF | 5% | 50V | C619 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V |
| C348 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C620 | 1-124-442-00 | ELECT | 330uF | 20% | 6.3V |
| C349 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C621 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C352 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V | C622 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C353 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V | C623 | 1-163-011-11 | CERAMIC CHIP | 0.0015uF | 10% | 50V |
| C354 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V | C624 | 1-163-125-00 | CERAMIC CHIP | 220PF | 5% | 50V |
| C355 | 1-163-239-91 | CERAMIC CHIP | 33PF | 5% | 50V | C625 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V |
| C356 | 1-163-245-11 | CERAMIC CHIP | 56PF | 5% | 50V | C701 | 1-124-570-11 | ELECT | 220uF | 20% | 16V |
| C357 | 1-163-253-91 | CERAMIC CHIP | 120PF | 5% | 50V | C702 | 1-126-204-11 | ELECT CHIP | 47uF | 20% | 16V |
| C361 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C703 | 1-126-405-11 | ELECT CHIP | 10uF | 20% | 50V |
| C402 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C704 | 1-130-771-00 | FILM | 0.18uF | 10% | 63V |
| C403 | 1-163-022-00 | CERAMIC CHIP | 0.012uF | 10% | 50V | C705 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V |
| C404 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C706 | 1-126-395-11 | ELECT | 22uF | 20% | 16V |
| C405 | 1-163-009-11 | CERAMIC CHIP | 0.001uF | 10% | 50V | C707 | 1-164-731-11 | CERAMIC | 120PF | 10% | 2KV |
| C407 | 1-124-360-00 | ELECT | 1000uF | 20% | 16V | C708 | 1-163-117-00 | CERAMIC CHIP | 100PF | 5% | 50V |
| C408 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C801 | 1-124-147-00 | ELECT | 47uF | 20% | 25V |
| C409 | 1-126-603-11 | ELECT CHIP | 4.7uF | 20% | 35V | C802 | 1-124-455-00 | ELECT | 100uF | 20% | 16V |
| C410 | 1-163-038-00 | CERAMIC CHIP | 0.1uF | | 25V | C803 | 1-124-147-00 | ELECT | 47uF | 20% | 25V |
| C411 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V | C804 | 1-163-031-91 | CERAMIC CHIP | 0.01uF | | 50V |
| C412 | 1-164-346-11 | CERAMIC CHIP | 1uF | | 16V | | | | | | |
| C413 | 1-164-222-11 | CERAMIC CHIP | 0.22uF | | 25V | | | | | | |

MAIN

| Ref. No. | Part No. | Description | Remark |
|----------|----------------|--------------------------------------|--------|
| | | < FILTER > | |
| CF201 | 1-409-369-00 | TRAP, CERAMIC 5.5MHz | |
| CF204 | 1-567-567-11 | FILTER, CERAMIC | |
| CF205 | 1-567-566-11 | FILTER, CERAMIC | |
| CF301 | 1-579-348-11 | FILTER, CERAMIC | |
| | | < CONNECTOR > | |
| CN401 | * 1-564-704-11 | PIN, CONNECTOR (SMALL TYPE) 2P | |
| CN801 | 1-565-073-11 | SOCKET, CONNECTOR 16P | |
| | | < TRIMMER > | |
| CV302 | 1-141-298-11 | CAP. TRIMMER 30PF | |
| | | < DIODE > | |
| D102 | 8-719-941-23 | DIODE DA204U | |
| D104 | 8-719-400-18 | DIODE MA152WK | |
| D106 | 8-719-951-22 | DIODE 1MN10 | |
| D108 | 8-719-400-18 | DIODE MA152WK | |
| D191 | 8-719-951-22 | DIODE 1MN10 | |
| D403 | 8-719-941-23 | DIODE DA204U | |
| D404 | 8-719-400-18 | DIODE MA152WK | |
| D601 | 8-719-400-20 | DIODE MA152WA | |
| D602 | 8-719-400-20 | DIODE MA152WA | |
| D603 | 8-719-400-20 | DIODE MA152WA | |
| D604 | 8-719-400-20 | DIODE MA152WA | |
| D605 | 8-719-974-51 | DIODE SB20-03P | |
| D606 | 8-719-106-53 | DIODE RD10M-B2 | |
| D701 | 8-719-400-18 | DIODE MA152WK | |
| D702 | 8-719-105-82 | DIODE RD5.1M-B2 | |
| D703 | 8-719-105-82 | DIODE RD5.1M-B2 | |
| D704 | 8-719-941-23 | DIODE DA204U | |
| | | < DELAY LINE > | |
| DL301 | 1-415-649-11 | DELAY LINE, 1H (ULTRASONIC) | |
| | | < FUSE > | |
| F601 | △ 1-532-777-21 | FUSE, MICRO (SECONDARY) (1.25A/125V) | |
| | | < IC > | |
| IC102 | 8-759-981-69 | IC LM2904M | |
| IC103 | 8-759-420-88 | IC AN5707NS | |
| IC104 | 8-759-234-77 | IC TC4S66F | |
| IC105 | 8-759-234-77 | IC TC4S66F | |
| IC106 | 8-759-234-77 | IC TC4S66F | |
| IC201 | 8-759-246-18 | IC TA8805F | |
| IC301 | 8-759-635-37 | IC M52003AFP | |
| IC401 | 8-759-981-69 | IC LM2904M | |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|--------------------------|--------|
| IC402 | 8-759-701-54 | IC NJM2073D | |
| IC601 | 8-759-802-39 | IC CX20159 | |
| IC602 | 8-759-630-27 | IC M5239ML | |
| | | < JACK > | |
| J101 | 1-507-974-11 | JACK (EXT ANT) | |
| J401 | 1-568-593-51 | JACK 1P (EAR) | |
| J501 | 1-568-593-51 | JACK 1P (AUDIO/VIDEO IN) | |
| J601 | 1-569-966-11 | JACK, DC (DC IN 9V) | |
| | | < COIL > | |
| L201 | 1-410-373-31 | INDUCTOR CHIP 2.2uH | |
| L202 | 1-410-373-31 | INDUCTOR CHIP 2.2uH | |
| L204 | 1-404-633-11 | COIL, VIF DETECTOR | |
| L205 | 1-404-633-11 | COIL, AFT DETECTOR | |
| L209 | 1-410-383-31 | INDUCTOR CHIP 15uH | |
| L301 | 1-410-384-31 | INDUCTOR CHIP 18uH | |
| L302 | 1-410-385-11 | INDUCTOR CHIP 22uH | |
| L303 | 1-410-387-11 | INDUCTOR CHIP 33uH | |
| L304 | 1-410-383-31 | INDUCTOR CHIP 15uH | |
| L305 | 1-410-385-11 | INDUCTOR CHIP 22uH | |
| L306 | 1-410-385-11 | INDUCTOR CHIP 22uH | |
| L601 | 1-460-032-11 | COIL, CHOKE 100uH | |
| L602 | 1-424-298-11 | COIL, CHOKE 82uH | |
| L603 | 1-412-032-11 | INDUCTOR, CHIP 100uH | |
| L604 | 1-412-032-11 | INDUCTOR, CHIP 100uH | |
| L605 | 1-412-032-11 | INDUCTOR, CHIP 100uH | |
| L701 | 1-460-032-11 | COIL, CHOKE 100uH | |
| L702 | 1-424-298-11 | COIL, CHOKE 82uH | |
| | | < TRANSISTOR > | |
| Q101 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q103 | 8-729-805-94 | TRANSISTOR 2SC4047 | |
| Q104 | 8-729-805-94 | TRANSISTOR 2SC4047 | |
| Q105 | 8-729-805-94 | TRANSISTOR 2SC4047 | |
| Q106 | 8-729-805-44 | TRANSISTOR 2SC3397 | |
| Q110 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q191 | 8-729-805-65 | TRANSISTOR 2SA1344 | |
| Q201 | 8-729-200-87 | TRANSISTOR 2SC2714-Y | |
| Q202 | 8-729-805-94 | TRANSISTOR 2SC4047 | |
| Q203 | 8-729-805-94 | TRANSISTOR 2SC4047 | |
| Q204 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q301 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q302 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q305 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q306 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q307 | 8-729-100-66 | TRANSISTOR 2SC1623 | |
| Q308 | 8-729-216-22 | TRANSISTOR 2SA1162-G | |
| Q401 | 8-729-140-75 | TRANSISTOR 2SD999-CLCK | |

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

MAIN

| Ref. No. | Part No. | Description | Remark | Ref. No. | Part No. | Description | Remark |
|--------------|--------------|-------------|---------------|----------|--------------|-------------|---------------|
| Q404 | 8-729-100-66 | TRANSISTOR | 2SC1623 | R210 | 1-216-059-00 | METAL CHIP | 2.7K 5% 1/10W |
| Q601 | 8-729-101-07 | TRANSISTOR | 2SB798-DL | R211 | 1-216-298-00 | METAL CHIP | 2.2 5% 1/10W |
| Q602 | 8-729-821-55 | TRANSISTOR | 2SC3647S | R212 | 1-216-063-00 | METAL CHIP | 3.9K 5% 1/10W |
| Q603 | 8-729-101-07 | TRANSISTOR | 2SB798-DL | R213 | 1-216-041-00 | METAL CHIP | 470 5% 1/10W |
| Q701 | 8-729-100-66 | TRANSISTOR | 2SC1623 | R215 | 1-216-057-00 | METAL CHIP | 2.2K 5% 1/10W |
| Q702 | 8-729-904-60 | TRANSISTOR | DTB113ZK | R216 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W |
| Q703 | 8-729-100-66 | TRANSISTOR | 2SC1623 | R218 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| Q704 | 8-729-216-22 | TRANSISTOR | 2SA1162-G | R219 | 1-216-067-00 | METAL CHIP | 5.6K 5% 1/10W |
| Q705 | 8-729-805-41 | TRANSISTOR | 2SC3398 | R220 | 1-216-059-00 | METAL CHIP | 2.7K 5% 1/10W |
| Q706 | 8-729-805-65 | TRANSISTOR | 2SA1344 | R221 | 1-216-045-00 | METAL CHIP | 680 5% 1/10W |
| Q707 | 8-729-805-41 | TRANSISTOR | 2SC3398 | R222 | 1-216-027-00 | METAL CHIP | 120 5% 1/10W |
| Q708 | 8-729-805-65 | TRANSISTOR | 2SA1344 | R223 | 1-216-019-00 | METAL CHIP | 56 5% 1/10W |
| Q709 | 8-729-920-34 | TRANSISTOR | DTC143XX | R224 | 1-216-040-00 | METAL GLAZE | 430 5% 1/10W |
| Q710 | 8-729-821-55 | TRANSISTOR | 2SC3647S | R225 | 1-216-011-00 | METAL CHIP | 27 5% 1/10W |
| Q711 | 8-729-821-55 | TRANSISTOR | 2SC3647S | R226 | 1-216-040-00 | METAL GLAZE | 430 5% 1/10W |
| Q712 | 8-729-100-66 | TRANSISTOR | 2SC1623 | R227 | 1-216-025-00 | METAL CHIP | 100 5% 1/10W |
| Q713 | 8-729-101-07 | TRANSISTOR | 2SB798-DL | R228 | 1-216-035-00 | METAL CHIP | 270 5% 1/10W |
| < RESISTOR > | | | | R230 | 1-216-105-00 | METAL CHIP | 220K 5% 1/10W |
| R101 | 1-216-093-00 | METAL CHIP | 68K 5% 1/10W | R234 | 1-216-035-00 | METAL CHIP | 270 5% 1/10W |
| R106 | 1-216-097-00 | METAL CHIP | 100K 5% 1/10W | R235 | 1-216-083-00 | METAL CHIP | 27K 5% 1/10W |
| R108 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R238 | 1-216-037-00 | METAL CHIP | 330 5% 1/10W |
| R109 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R242 | 1-216-057-00 | METAL CHIP | 2.2K 5% 1/10W |
| R110 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W | R245 | 1-216-311-00 | METAL CHIP | 6.8 5% 1/10W |
| R112 | 1-216-089-00 | METAL CHIP | 47K 5% 1/10W | R246 | 1-216-021-00 | METAL CHIP | 68 5% 1/10W |
| R114 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R250 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W |
| R115 | 1-216-067-00 | METAL CHIP | 5.6K 5% 1/10W | R251 | 1-216-101-00 | METAL CHIP | 150K 5% 1/10W |
| R116 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R252 | 1-216-105-00 | METAL CHIP | 220K 5% 1/10W |
| R117 | 1-216-097-00 | METAL CHIP | 100K 5% 1/10W | R253 | 1-216-051-00 | METAL CHIP | 1.2K 5% 1/10W |
| R118 | 1-216-083-00 | METAL CHIP | 27K 5% 1/10W | R301 | 1-216-081-00 | METAL CHIP | 22K 5% 1/10W |
| R123 | 1-216-079-00 | METAL CHIP | 18K 5% 1/10W | R302 | 1-216-029-00 | METAL CHIP | 150 5% 1/10W |
| R125 | 1-216-071-00 | METAL CHIP | 8.2K 5% 1/10W | R303 | 1-216-081-00 | METAL CHIP | 22K 5% 1/10W |
| R137 | 1-216-061-00 | METAL CHIP | 3.3K 5% 1/10W | R304 | 1-216-043-00 | METAL CHIP | 560 5% 1/10W |
| R138 | 1-216-089-00 | METAL CHIP | 47K 5% 1/10W | R305 | 1-216-029-00 | METAL CHIP | 150 5% 1/10W |
| R139 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R306 | 1-216-051-00 | METAL CHIP | 1.2K 5% 1/10W |
| R140 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W | R308 | 1-216-027-00 | METAL CHIP | 120 5% 1/10W |
| R141 | 1-216-105-00 | METAL CHIP | 220K 5% 1/10W | R309 | 1-216-051-00 | METAL CHIP | 1.2K 5% 1/10W |
| R146 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W | R310 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W |
| R147 | 1-216-049-00 | METAL CHIP | 1K 5% 1/10W | R311 | 1-216-073-00 | METAL CHIP | 10K 5% 1/10W |
| R148 | 1-216-097-00 | METAL CHIP | 100K 5% 1/10W | R312 | 1-216-053-00 | METAL CHIP | 1.5K 5% 1/10W |
| R191 | 1-216-121-00 | METAL CHIP | 1M 5% 1/10W | R313 | 1-216-075-00 | METAL CHIP | 12K 5% 1/10W |
| R192 | 1-216-121-00 | METAL CHIP | 1M 5% 1/10W | R314 | 1-216-039-00 | METAL CHIP | 390 5% 1/10W |
| R193 | 1-216-121-00 | METAL CHIP | 1M 5% 1/10W | R315 | 1-216-085-00 | METAL CHIP | 33K 5% 1/10W |
| R194 | 1-216-089-00 | METAL CHIP | 47K 5% 1/10W | R316 | 1-216-079-00 | METAL CHIP | 18K 5% 1/10W |
| R195 | 1-216-079-00 | METAL CHIP | 18K 5% 1/10W | R317 | 1-216-109-00 | METAL CHIP | 330K 5% 1/10W |
| R201 | 1-216-041-00 | METAL CHIP | 470 5% 1/10W | R319 | 1-216-055-00 | METAL CHIP | 1.8K 5% 1/10W |
| R202 | 1-216-097-00 | METAL CHIP | 100K 5% 1/10W | R320 | 1-216-077-00 | METAL CHIP | 15K 5% 1/10W |
| R203 | 1-216-093-00 | METAL CHIP | 68K 5% 1/10W | R321 | 1-216-089-00 | METAL CHIP | 47K 5% 1/10W |
| R209 | 1-216-045-00 | METAL CHIP | 680 5% 1/10W | R322 | 1-216-065-00 | METAL CHIP | 4.7K 5% 1/10W |
| | | | | R323 | 1-216-091-00 | METAL CHIP | 56K 5% 1/10W |

MAIN

| Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|-------------|--------|----|-------|
| R324 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R325 | 1-216-035-00 | METAL CHIP | 270 | 5% | 1/10W |
| R326 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R327 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R328 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R329 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R330 | 1-216-035-00 | METAL CHIP | 270 | 5% | 1/10W |
| R333 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R334 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R335 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R336 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R337 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R338 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |
| R339 | 1-216-104-00 | METAL CHIP | 200K | 5% | 1/10W |
| R340 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R342 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R343 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R344 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R345 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R346 | 1-216-103-00 | METAL CHIP | 180K | 5% | 1/10W |
| R347 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R348 | 1-216-748-11 | METAL CHIP | 39K | 1% | 1/10W |
| R350 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R357 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R358 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R361 | 1-216-121-00 | METAL CHIP | 1M | 5% | 1/10W |
| R362 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R363 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R364 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R365 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R366 | 1-216-109-00 | METAL CHIP | 330K | 5% | 1/10W |
| R398 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R402 | 1-216-059-00 | METAL CHIP | 2.7K | 5% | 1/10W |
| R403 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R405 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R406 | 1-216-091-00 | METAL CHIP | 56K | 5% | 1/10W |
| R407 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R409 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R410 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R411 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R412 | 1-216-748-11 | METAL CHIP | 39K | 1% | 1/10W |
| R413 | 1-216-748-11 | METAL CHIP | 39K | 1% | 1/10W |
| R414 | 1-216-089-00 | METAL CHIP | 47K | 5% | 1/10W |
| R415 | 1-216-748-11 | METAL CHIP | 39K | 1% | 1/10W |
| R416 | 1-216-748-11 | METAL CHIP | 39K | 1% | 1/10W |
| R417 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W |
| R418 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R419 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R420 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |

| Ref. No. | Part No. | Description | Remark | | |
|----------|--------------|-------------|--------|----|-------|
| R421 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R422 | 1-216-037-00 | METAL CHIP | 330 | 5% | 1/10W |
| R427 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R428 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R429 | 1-216-113-00 | METAL CHIP | 470K | 5% | 1/10W |
| R430 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R431 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R432 | 1-216-017-00 | METAL CHIP | 47 | 5% | 1/10W |
| R506 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R601 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R602 | 1-216-031-00 | METAL CHIP | 180 | 5% | 1/10W |
| R603 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R604 | 1-216-043-00 | METAL CHIP | 560 | 5% | 1/10W |
| R605 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R606 | 1-216-069-00 | METAL CHIP | 6.8K | 5% | 1/10W |
| R608 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W |
| R609 | 1-216-051-00 | METAL CHIP | 1.2K | 5% | 1/10W |
| R610 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R611 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R613 | 1-216-009-00 | METAL CHIP | 22 | 5% | 1/10W |
| R614 | 1-216-075-00 | METAL CHIP | 12K | 5% | 1/10W |
| R615 | 1-216-045-00 | METAL CHIP | 680 | 5% | 1/10W |
| R616 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R617 | 1-216-033-00 | METAL CHIP | 220 | 5% | 1/10W |
| R618 | 1-216-083-00 | METAL CHIP | 27K | 5% | 1/10W |
| R619 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R620 | 1-216-025-00 | METAL CHIP | 100 | 5% | 1/10W |
| R621 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R622 | 1-216-001-00 | METAL CHIP | 10 | 5% | 1/10W |
| R623 | 1-216-071-00 | METAL CHIP | 8.2K | 5% | 1/10W |
| R624 | 1-216-085-00 | METAL CHIP | 33K | 5% | 1/10W |
| R625 | 1-216-095-00 | METAL CHIP | 82K | 5% | 1/10W |
| R701 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R702 | 1-216-105-00 | METAL CHIP | 220K | 5% | 1/10W |
| R703 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R704 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R705 | 1-216-065-00 | METAL CHIP | 4.7K | 5% | 1/10W |
| R706 | 1-216-077-00 | METAL CHIP | 15K | 5% | 1/10W |
| R707 | 1-216-101-00 | METAL CHIP | 150K | 5% | 1/10W |
| R708 | 1-216-258-00 | METAL GLAZE | 330K | 5% | 1/8W |
| R709 | 1-216-258-00 | METAL GLAZE | 330K | 5% | 1/8W |
| R710 | 1-216-174-00 | METAL GLAZE | 100 | 5% | 1/8W |
| R711 | 1-216-174-00 | METAL GLAZE | 100 | 5% | 1/8W |
| R712 | 1-216-053-00 | METAL CHIP | 1.5K | 5% | 1/10W |
| R713 | 1-216-097-00 | METAL CHIP | 100K | 5% | 1/10W |
| R714 | 1-216-061-00 | METAL CHIP | 3.3K | 5% | 1/10W |
| R715 | 1-216-073-00 | METAL CHIP | 10K | 5% | 1/10W |
| R716 | 1-216-081-00 | METAL CHIP | 22K | 5% | 1/10W |
| R717 | 1-216-049-00 | METAL CHIP | 1K | 5% | 1/10W |

MAIN

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|-----------------------------------|--------|
| | | < VARIABLE RESISTOR > | |
| RV101 | 1-238-716-11 | RES. ADJ. METAL GLAZE 100K | |
| RV102 | 1-238-716-11 | RES. ADJ. METAL GLAZE 100K | |
| RV103 | 1-238-716-11 | RES. ADJ. METAL GLAZE 100K | |
| RV104 | 1-238-715-11 | RES. ADJ. METAL GLAZE 47K | |
| RV105 | 1-238-715-11 | RES. ADJ. METAL GLAZE 47K | |
| RV106 | 1-238-715-11 | RES. ADJ. METAL GLAZE 47K | |
| RV201 | 1-228-995-00 | RES. ADJ. METAL 22K | |
| RV301 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV302 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV303 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV305 | 1-230-498-11 | RES. ADJ. CARBON 47K (BRIGHT) | |
| RV306 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV307 | 1-230-722-11 | RES. ADJ. CARBON 22K (COLOUR) | |
| RV308 | 1-228-991-00 | RES. ADJ. METAL 2.2K | |
| RV309 | 1-228-997-00 | RES. ADJ. METAL 100K | |
| RV310 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV311 | 1-228-996-00 | RES. ADJ. METAL 47K | |
| RV401 | 1-241-547-11 | RES. VER. CARBON 10K (VOLUME) | |
| RV601 | 1-228-993-00 | RES. ADJ. METAL 4.7K | |
| RV602 | 1-228-993-00 | RES. ADJ. METAL 4.7K | |
| RV603 | 1-228-993-00 | RES. ADJ. METAL 4.7K | |
| | | < SWITCH > | |
| S101 | 1-554-061-00 | SWITCH. SLIDE (BAND) | |
| S102 | 1-554-303-21 | SWITCH. TACTILE (TUNING -) | |
| S103 | 1-554-303-21 | SWITCH. TACTILE (TUNING +) | |
| S104 | 1-554-303-21 | SWITCH. TACTILE (CH CALL) | |
| S601 | 1-554-061-00 | SWITCH. SLIDE (POWER) | |
| | | < FILTER > | |
| SWF201 | 1-577-604-11 | FILTER. SAW (38.9MHz) | |
| | | < TRANSFORMER > | |
| T301 | 1-459-949-11 | COIL | |
| T601 | 1-450-287-11 | TRANSFORMER. DC-DC CONVERTER | |
| T701 | 1-450-286-11 | TRANSFORMER. DC-AC CONVERTER | |
| | | < TUNER UNIT > | |
| TU101 | 1-466-590-11 | TUNER UNIT | |
| | | < CRYSTAL > | |
| X301 | 1-567-504-81 | OSCILLATOR. CRYSTAL (4.433619MHz) | |

| Ref. No. | Part No. | Description | Remark |
|----------|--------------|---|--------|
| | | MISCELLANEOUS ***** | |
| ANT101 | 1-501-494-11 | ANTENNA. TELESCOPIC | |
| FL701 | 1-519-563-11 | INDICATOR TUBE. FLUORESCENT | |
| ND701 | 1-808-658-11 | DISPLAY MODULE. LIQUID CRYSTAL | |
| SP401 | 1-544-548-11 | SPEAKER (8CM) | |
| | | ***** | |
| | | ACCESSORIES & PACKING MATERIALS ***** | |
| | | △. 1-465-817-11 ADAPTOR. AC (AC-E702AE) | |
| | | 1-558-949-11 CABLE. ANTENNA | |
| | | 3-754-010-11 MANUAL. INSTRUCTION (ENGLISH, FRENCH, GERMAN, DUTCH, SWEDISH) | |
| | | * 4-030-767-01 CUSHION (UPPER) | |
| | | * 4-030-768-01 CUSHION (LOWER) | |
| | | * 4-033-707-01 INDIVIDUAL CARTON | |
| | | 9-910-999-32 BAG. PROTECTION | |
| | | ***** | |

HARDWARE LIST

| | | |
|----|--------------|----------------------------|
| #1 | 7-682-547-04 | SCREW +B 3X6 |
| #2 | 7-685-646-79 | SCREW +BVTP 3X8 TYPE2 N-S |
| #3 | 7-685-647-79 | SCREW +BVTP 3X10 TYPE2 N-S |
| #4 | 7-685-649-79 | SCREW +BVTP 3X14 TYPE2 N-S |
| #5 | 7-685-105-19 | SCREW (2X8). + PTPWH |

Note: The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.